

JUST
5¢

ALL FLESH IS BRASS By Milton Lesser

fantastic

AND

ADVENTURES



Born five hundred years too soon, John Cole became

THE MAN WHO LIVED TWICE By **ROG PHILLIPS**

MEN BEHIND **FANTASTIC** ADVENTURES

Like the mathematical "X" that appears so often in their articles, our nonfiction writers have, up until now, been somewhat of an unknown quantity to our readers. Here with the facts about five favorites:

L. A. Burt:

I've been a science-fiction fan for more years than I have fingers and toes—and I have the conventional number of each. Now, as any good fan knows, the first reaction to a well-handled story is "Gosh, that was terrific!" The second is "You know, I bet I could write one like that!"

So of course I tried. But, as more than one editor saw fit to remind me, as a fiction writer, I remained a first-class bank-teller. So I dropped the *f* from *sf* and began to write science shorts—and my stuff sold! With the result that I have something to look forward to after banking hours—a nice little niche in science fiction, and complimentary copies of AS and FA for my twelve-year-old son to read!

Wilton Avery MacDonald:

Like my favorite maternal ancestor, the poet Robert Burns, I'm a Scotsman with scorn for the plough and love for the printed word. Unlike him, I'm not yet a singer of songs—but I mean to be. As a step in that direction, I left Scotland three years ago, with my wife Jean and our four children, to settle in your wonderful Middle West.

At present I'm a part-time—and lightly published—poet! Needless to say, the MacDonald exchequer depends chiefly upon other sources, in particular my activities as writer-lecturer on science topics. Hence my most enjoyable work for FANTASTIC ADVENTURES.

Salem Lane:

Horatio-Alger-fashion, I worked my way through the first two years of col-

lege selling—among other things—subscriptions to magazines. Until suddenly it occurred to me that I had been concentrating on the wrong side of the book—the outside! So I began to concentrate on the inside.

As a consequence I've worked my way through my Junior and Senior years, and the first semester of a Master's in Mathematics, writing science pieces for magazines, among them FA.

Ralph Cox:

This is going to be the briefest of autobiographies. I'm a mathematician and physicist at one of the large midwestern universities and, at present, I'm doing research on a government project. You know—the kind you may allude to but not discuss. Since that's the most interesting item in my life-story, I'm left with precious little to tell.

Writing science shorts for FA is in the way of a hobby, or busman's holiday, if you like.

Personal datum: I'm a bachelor, which I understand is a dangerous assertion to make.

June Lurie:

Silas Marner may be a far cry from science fiction, but I've found that I can handle both in my stride (if a school-marm may be permitted to mix a metaphor). I don't know which gives me more pleasure: writing fact articles for FANTASTIC ADVENTURES or having my high-school English students come upon my by-line accidentally—and incredulously—while reading what they think I'd think would be unsuitable literature!

The Editor's Notebook

A CONFIDENTIAL CHAT WITH THE EDITOR

THE OTHER evening we were reading "The Works of Charles Fort" again, and found it, as always, an interesting and provocative series of experiences.

IN READING this type of book, one can get carried away by its fictional quality, by the make-believe—almost completely imaginary atmosphere—of the stories. But Charles Fort probably believed everything he wrote.

IT IS not our intention to discuss the point here of whether or not all of what Fort writes is true. The fact does remain, however, that it makes fascinating reading, which as far as we're concerned is the most important element of the book. We think the way to approach this book is from the standpoint of neither believing nor disbelieving. In this way, the greatest amount of enjoyment can be obtained from the reading.

IT HAS often been stated—and truly—that fact is stranger than fiction. But for people to believe *certe blanché* that everything that Fort writes is true, strains the credulity. But there's still a wallop

to be gotten from reading this material that defies analysis.

REGARDLESS OF the controversy concerning Fort's book, we have a feeling that his work will be in existence long after many authenticated fact volumes are forgotten.

WITH GUESSES running wild these days concerning the possibility of space travel, it's interesting to note that Nature seems to have intended for us to eventually get around to doing this type of adventuring, and has long ago set the way up for us. She's got a vast series of space stations ready and waiting for human occupancy when men finally do get beyond the orbit of Mars.

THE MINOR planets, the familiar asteroids between Mars and Jupiter, almost certainly will be used as stepping stones to the exploration of the outer planets.

IN ADDITIONAL to the asteroidal belt which may prove as useful, there are numerous other minor planets, some of which approach fairly close to Earth, which can serve as way stations. And once rocket motors of moderate size are made available, it will probably be possible to even shift a minor planet to a new position where it would better serve as a station.

THE PLANETOIDS form a reservoir of natural landing places, equipped with materials. By the time men are ready to use those minor planets, technology may have the answer to using space-borne matter, even to the point of refining and working ores.

AN EXCITING and thrilling adventure was written by John Fletcher for the September issue of FANTASTIC ADVENTURES. Titled "Terror from the Abyss", it's about a monster who can be appeased only by lovely ladies. John has really outdone himself with a story that's as fast paced as you can find. Don't miss it! .LES



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All Stories Complete

THE MAN WHO LIVED TWICE (Novel—10,000) by Reg Phillips 6

Illustrated by Ed Enslar

John Cole could not decide whether she was a he or he was a she. He finally decided that both she and he were really an it.

ALL FLESH IS BRASS (Short—4,000) by Milton Lesser 62

Illustrated by Ed Enslar

It was a crazy war where yesterday's friend could be today's enemy. Also, your jeep and the men you shot at were made of the same material.

THE YELLOW WIND (Novellette—10,000) by Dean Evans 72

Illustrated by Mendosa

When the yellow wind blows across Mars, no life is safe. Women reach for butcher knives. Murder stalks the streets. The devil rides high.

TOMORROW'S SHADOW (Short—5,000) by Arthur G. Stangland 92

Illustrated by John Grieco

They said an operation would save Spreaf's life. His brother knew differently. He had lived through it before. Would they believe him?

MARS INVITES YOU (Novellette—12,000) by Don Wilcox 106

Illustrated by Virgil Finlay

Lorna looked like an angel. But also, she could fight like a devil—and heaven help any Wedge-headed Zim that got in her way.

Front Cover by Walter Popp, suggested by a scene from "The Man Who Lived Twice"

CONTRIBUTIONS: Contributors are advised to retain a copy of their manuscripts and illustrations. Contributions should be mailed to the New York Editorial Office and must be accompanied by return postage. Contributions will be handled with reasonable care, but this magazine assumes no responsibility for their safety. Any copy accepted is subject to whatever adaptations and revisions are necessary to meet the requirements of this publication. Payment covers all author's, contributors' and assistant's rights, title, and interest in and to the material accepted and will be made at our current rates upon acceptance. All photos and drawings will be considered as part of the material purchased.

THE MAN WHO LIVED TWICE

Rog. Phillips



The Past and the Future briefly faced the Present



The problem was: How could one brain cell release three billion others from slavery?

SOMETHING had gone wrong. It must have! John Cole frowned his disappointment without opening his eyes. It *had* been a little too much to hope for, to expect to really happen; yet it had worked on chickens, rabbits, and dogs. There was no reason to expect it not to work on himself, except that it was too much to hope for.

And it had failed. The bitter disappointment formed creases of discouragement in his face. Then he opened his eyes. His fingers groped and found the toggle that would turn on the light. There was an audible snapping sound as the toggle jumped. The small compartment flooded with soft light.

John blinked at the pain the light brought to his eyes. In a moment he

could see. He turned his head and looked at the instrument panel, found the date meter. The numerals, 2436, beamed at him whitely.

2436! His body sagged back against the cradle that had held it for almost five hundred years.

"So it did work," he said, his voice sounding strange. A queer smile twisted at his mouth. There was a regret in it for the rash forsaking of his own time for the future: A realization that whatever was to come, the past, the normalcy of his own times, were gone beyond recall.

He knew now that the reason he had thought it hadn't worked was that he had no feeling of passage of time. His impression, on waking had been that not more than an hour could have elapsed. Yet, it had been four hundred and eighty-seven years!

In memory John reviewed that day, long ago, when he had plunged the hypo into his arm, then lain down in the specially designed cradle.

The contents of that hypodermic needle had taken seven years for him to isolate. Seven years of research into the problem of why cold-blooded creatures were cold-blooded, and warm-blooded creatures were warm-blooded. After he had found the answers and proved them by making warm-blooded frogs and cold-blooded dogs and, studying the effects of the prolonged stupor warm-blooded animals fell into when their temperature dropped, he had conceived his grand scheme of using it on himself and sleeping for a few hundred years.

He had thought of every angle to the problem. The fact that he was still alive and healthy after so long a time proved that. The cradle had been designed and powered to prevent setting of the joints and atrophy of the circulation. Air, moisture, and food

concentrate had been supplied by a perfect, foolproof mechanism.

He had built his sleeping chamber in a cave he had discovered when he was a child.

The power required to operate all the automatic mechanisms had been very little, and had been supplied by a small turbo outfit with special bearings and special blades that would last indefinitely. The water-power source had been an underground reservoir draining into a spring. The spring had been stopped up and connected to the water turbine, providing a permanent source of water power.

Even with all these permanent, foolproof things to ensure a long period of undisturbed sleep, the antidote mechanism had been triggered so that failure of anything would cause it to work and revive him immediately.

He had told no one of his plans so that no one would ever invade his sanctum or know that the secret of suspended animation existed.

AND NOW... He climbed unsteadily out of the cradle and stood up, hanging onto a support until the first vertigo of movement passed. His skin was sensitive, hairless. He had expected that from the experiments with the dog. Its hair had dropped off in a few months, but had grown in again after it was revived.

His eyes surveyed the square room of concrete covered by metal tile, recalling everything about it. On the outside it had been disguised to seem a part of the cave wall in case the cave were ever entered by some casual discoverer. The only door was barred on the inside.

For a moment terror licked at his mind. Suppose that after all these years the mouth of the cave had fallen in? That was one eventuality for which he hadn't provided. Suppose debris

had piled against the outside of the door so it wouldn't open? In that case all he could do would be to go back to sleep and wait until someone excavated and uncovered him.

More to subdue the growing anxiety than from any desire to exert himself, John walked unsteadily over to the door and lifted each of the three bars, leaning them against the wall.

Then he stood back. The door was free now. A push should swing it open. He hesitated, dreading to find out that it wouldn't budge.

A sharp rapping blow made him jump. It was repeated. Voices came excitedly through the door. As John Cole stood there, bewildered, the door opened slowly outward, pulled by unseen hands.

As the thick door cracked open the excited voices died down. John tried to pick out familiar words in what he had heard. The language seemed to be English or some version of it but so changed that little was left except the familiar sound of it.

The crack widened. Hands appeared gripping the edge of the door, pulling. A man's face, clean-shaven, intelligent, came into view. His eyes were quick and alert. There was a blue-steel shape in his hand that probably was a gun of some kind, though strange in design. The gun pointed at John's middle. The knuckle crooked into the hidden trigger whitened, then relaxed.

"Stah!" exclaimed the man. The door stopped opening. Without taking his eyes off John the man talked rapidly, authoritatively. Other faces appeared briefly and withdrew. In the rapid flow of words the sounds *neck*, *stah*, and *gik* were repeated very often.

John was already trying to decipher the tongue. He surmised that *stah* was *stop* with a silent *p*, and from the tone and response *neck* must be the 2436 version of *naked*, while *gik* must

mean *git*, the old hillbilly expression for *scram* or *beat it*. The words flowed too rapidly, however, to make sense out of more than isolated, much-repeated ones.

The clothes the man wore were quite ordinary and obviously manufactured, as was his gun. Parts of the gun were obviously mold-stamped plastic. There was lettering visible along the barrel.

The different voices disclosed that there were men, women, and children outside, and that the women and children were being ordered to leave because he was naked.

Every indication pointed to normalcy and the same old human race still living. Everything indicated he could expect a glad reception and world acclaim as soon as he had proved himself. Everything—except the gun still pointed at him and the tense expression on the man's face. And that whitened knuckle. John sensed that this man had killed often—often enough so that the act didn't hold any repugnance for him in itself.

But whatever lay behind those significant signs, he was evidently going to get a hearing instead of a bullet. He forgot about it and smiled at the sounds of disappointed kids being herded out of the cave by excited women.

NOT UNTIL their voices died in the distance did the door open further. Then it was opened swiftly to reveal a ring of armed men, their faces cold and grim.

"Hoor," the leader clipped.

"I take it you're asking me who I am," John said slowly. "I'm John Cole. I've been in here since 1949, in suspended animation."

Another of the hostile ring said clearly, "Trick!" Worried eyes glanced

at the leader briefly and back to John. The leader slowly shook his head.

"N'trick," he said flatly. Then to John, "I've been quite a student of the ancient recordings, and speak old American fluently. I can believe you. However, you must submit to certain tests to prove this isn't a trick. If it is a trick, you must know those tests and know they will reveal you."

"I'm telling the truth," John said, relaxing. "I'm glad you have tests to prove it, because it will set you at ease sooner. Those guns' pointed at me tickle my ribs."

A brief smile flickered on the face of the leader, but he didn't answer. A man came into the cave with some clothes under his arm and tossed them at John, who tried to catch them. They hit him and dropped to the floor before he could get his hands up to grasp them. He bent over to pick them up. A vertigo seized him. He started to fall.

Hands caught him and held him up, but a shrilly angry voice screamed. "Undo!" and the hands dropped away. They had prevented the fall, though, and John slowly and carefully pulled on trousers and shirt. The shoes were nothing but soles with straps to hold them on, styled in the pattern of the woman's slipper without any heel. John sat on the dirt floor of the cave while he mastered the problem of putting them on. When he finished he looked up and smiled his thanks.

The leader then turned and went to the entrance of the cave. John watched him and saw the face of a young girl peek in at him, eyes large and round.

The girl talked in a low voice to the man, eagerly and insistently. The man listened, nodding his head gravely from time to time. Finally he turned and came back, pointing his gun once more at John.

"Now it comes," John muttered.

"You have passed the tests," the man said. After he said it he looked from one to another of his companions, smiling, then dramatically holstered his gun. The others did the same.

The ring of menacing guns changed to a ring of smiling faces. The leader advanced, hand outstretched.

"My name is Gorsh," he said, his smile wide. "You are weak and need food and rest. Otherwise I'd introduce you to the others. I will let Rag meet you, though. If he weren't with us I would have had to kill you. Rag!"

The girl with the large round eyes stepped timidly inside the entrance.

"This is John Cole, Rag," Gorsh said jovially.

Rag stared at John's face fixedly for perhaps five seconds. Suddenly she giggled. Her face turned pink. She turned and ran from the cave in confusion.

John stared after the retreating figure. Rag was gone before he fully realized that Gorsh had distinctly said, "If he weren't with us." John turned to Gorsh determinedly.

"Is Rag a boy or a girl?" he asked.

"He's my daughter," Gorsh said quietly. There was a note of quiet pride as he said it. He added, almost as an afterthought, "He's a natural."

IT WAS a full ten days before John was again able to view his surroundings with any degree of interest after that first half hour of meeting. He could remember later wondering what had happened to the feminine pronoun in "old American". When Gorsh had proudly announced that "Rag was a natural", his head had been spinning.

After that there had been nightmarish memories of a rough, swaying

trip that seemed to last forever. He knew he was being carried.

In a later, infinite duration of painful existence he was aware, of a hospital room, the doctors and nurses quite normal-looking. Periodically they forced him to eat. Each time he promptly threw up whatever it was he had swallowed. Even water wouldn't stay down.

During that period he had been convinced that he must have caught some bad disease, and that his five centuries of suspended animation and his awakening were delusions.

The climb to the full resumption of all bodily functions was steep all the way. For two days moisture and food had to be introduced intravenously. The stomach refused to hold anything at all.

It might never have retained anything if one of the doctors had not had the happy inspiration of completely anesthetizing the stomach muscles. Intravenous feeding was continued while a neutral gel was fed into the stomach, a pint every hour, until normal process of the stomach and intestines was established.

This procedure was just started by the time the intravenous feeding had begun to make its effects felt. Immediately John was caught up in the problem. It was a necessary adjunct of his own special field of suspended animation, and was necessary to complete his reports. Anyone in the future who wished to suspend animation for any length of time would have to know the procedure for starting life again. The necessary equipment and materials must be near at hand in the sleep chamber so they could be used immediately.

Thus, the incidents following his awakening in the cave, made unreal by the two days of suffering following

them, retreated into the background. The technical problem held his attention. The language barrier between him and the nurses and doctors kept his thoughts within himself.

There was nothing to distract his attention. The room had no windows. The walls and ceiling were an uninterrupted pale blue-green. For all he could find out he might be a thousand feet underground or on the hundredth floor of a skyscraper in a gigantic city of the future.

The treatment accorded him both amused and irked him. The nurses who fed him his hourly pint of neutral gel, took his temperature, and performed their other duties, wore sterile masks that hid their features. When they talked it was to each other, and in the rapid, senseless end-product of good English run riot.

The doctors who dropped in also wore masks and seemed to be working on the theory that he must have nothing distracting like visitors or information about the world to upset him.

AS THE interminably long days passed and his strength returned, he realized that they had probably been right. Intravenous feeding ended and the tasteless neutral gel took on flavor and substance.

John had just begun to wonder if a story he had read once, in which the people of the future had forsaken good natural foods like potatoes and beef, steak for artificial gels and pills, were true when the gel was stopped and he saw his first real indication that the human race hadn't changed much over the years.

It was a cup of coffee, two fried eggs, and some fried potatoes. There was even toast with real butter on it. He enjoyed it to the full. The aroma

of the coffee was a perfume of the gods.

After he had finished he had relaxed with the feeling that, perhaps now he would be allowed to get up and see something of the world. His hopes were shattered by the nurses and doctors that hovered over him for the next few hours, checking his pulse and temperature. The doctors peered through fluoroscope screens, watching the progress of the food. Wryly John realized that it all must have been doctored with chemicals that would make it show on the X-ray screens, and that giving him a good home-cooked meal had been merely an experiment.

The masked faces and impersonal eyes were so much alike that he stopped being curious about the people behind them. He looked forward to another good meal. When it came he enjoyed it. With sign language he even managed to get an extra cup of coffee.

And during all this time his mind searched out details and pieced them together to form a picture of this world of the future. From the efficiency and expertness of the nurses and the signs of standardization and perfection of every manufactured thing he came in contact with, he built up a picture of a large hospital. The lack of windows and the perpetual masks spoke of carefully sterilized air and controlled circulation of it.

He began to look forward to the day when he would be permitted to get up and see for himself what the world was like now. No doubt Gorsh and his friends had entered the sleep chamber and reported what they found to the authorities, and scientists were going over it carefully.

The scientists would find the exercising cradle he had lain in, the instrument panel with its date meter,

and with the date he had started engraved under it.

The story had probably been spread all over the world. When he left the hospital he would probably be given the keys to the city or something, be interviewed by reporters, photographed by newsreel photographers, and deluged with offers of contracts for lecture tours and other things.

No doubt a daily report was released by this hospital on his condition, and millions of people looked for that over their breakfast or listened to it over the radio before going to work.

In these day-dreams the time passed more quickly. His years of research were to be rewarded at last. He was to come into his own! And while he dreamed, a few feet away, on the other side of the blue-green wall, her young eyes too full of wisdom, sat Rag, watching him.

IT WAS the tenth day since the stranger who claimed to come from the past and who spoke an old form of American had appeared before Gorsh as he looked into the newly discovered secret cave. Gorsh had just come from talking with the doctor, who had told him that this stranger, John Cole, could now be permitted to get up and do as he chose.

Gorsh silently opened the door to the observation chamber of the hospital room, and stood there for a moment frowning with a mixture of love and worry as he looked at the back of his daughter's head.

Beyond her he could see through the one-way plastic wall into the room where John lay on his hospital bed, apparently asleep. His eyes were kind as he let them rest briefly on the strong chin, regular features, and high forehead of this stranger. There was

now a good quarter of an inch of black hair growing out of his scalp, indicating that the five centuries of sleep that had produced the baldness had not destroyed the hair roots.

Gorsh tried to estimate the age of John; then smiled as he realized that what he had been trying to estimate was physical age rather than the actual number of years. This John might have been an old man when he lay down to sleep, and the sleep might have restored his youthful appearance with its slow-healing process.

He dropped his eyes to the back of Rag's head again. His daughter was now nineteen. He had guarded her very carefully all these years since...

She was a natural telepath. The only one in their slowly dwindling community. He, her father, had taught her only to touch on men's minds and never go deep into them. He had realized that when she finally probed to the depths of one man she would fall in love with that man unless he were criminal or base.

He had not wanted her to probe the depths of the mind of John Cole; but he had been overruled by the other members of the council. They had presented the two alternatives: either killing the newcomer at once and taking no chances, or risking Rag's affections in an exhaustive probe.

Gorsh had killed many people, for what he considered good reasons. He could not kill now when there was good evidence that there was no real need. He had given in and permitted Rag to sit bere behind the spy wall, watching, probing the silent thoughts that flitted through the conscious mind behind that high forehead.

Not once had they been inconsistent with the evidence. Not once had they even hinted at *contact*, that spectre which hovered over all of them every

minute, forcing them to kill, kill, kill. Forcing them to kill even their loved ones—as he, Gorsh, had had to kill Rag's mother almost before Rag had seen the light of day.

The frown on Gorsh's face turned bitter at the memory of that. An had been permitted to live after it happened only because of the imminent birth of her child. Her mind had been blanked out, however, and she had been kept in a plain, enclosed room so that she wouldn't know where she was.

The moment Rag had been safely brought into the world An had been destroyed completely, her ashes spread to the winds, and Gorsh had locked up in his soul all the loving memories of his wife, where no one but he could discover them.

IT WAS the tenth day since the An's death until Rag was born had paid off. Rag had proven a natural. Her telepathic gift had survived and developed. More than once it had saved them all by sensing the initial symptoms of *contact* in one of their own number who had wandered away unnoticed and returned unnoticed. More than once it had made possible the acceptance of additions to their number from among the wandering remnants of other isolated groups.

Without her powers of telepathy they would have been forced to kill strangers swiftly.

Gorsh closed the door softly behind him and crossed the small spy room, dropping onto the seat beside Rag. She greeted him with a quick smile.

"The doctor says he can be a free man after today, Rag," Gorsh said in a swift, contracted tongue they customarily used.

"I'm glad, Father," Rag said. She

shook her head in amused sympathy. "John's going to have his dreams quite rudely shattered when he finds out how things really are."

"How's that?" Gorsh asked, surprised.

"Having nothing else to do, he's been thinking too much," Rag replied. "He's built up a picture—quite inaccurate in its essential features—about the outside. He's going to be very disappointed when he finds that instead of world-wide acclaim and recognition he has nothing but a precarious future with a small band of fugitives."

"I've been trying to probe his background and discover if he has the ability to understand. I doubt if he will be able to. His twentieth-century concepts may not be adequate for it."

"Well, we'll give him only carefully restricted freedom until we're sure he does," Gorsh said practically. "Any of us would hate to have to shoot him."

Rag nodded, her face sober. "It would break my heart, Dad. Just as yours was broken."

"It would do more than that," Gorsh said dryly. "It would be the end of all of us. Once SHE learned that he had existed and we had killed him, the final drive would begin and there would be no more of us—any of us—anywhere."

"How do you feel, John Cole?"

JOHAN OPENED his eyes at the sound of the familiar voice. He hadn't bothered to open them when he heard someone enter, not expecting anything new to happen. He gazed blankly at the visitor during the instant of surprise, then smiled.

"Oh, I feel fine, Gorsh," he said. "Only I'm getting tired of living here doing nothing. I wish you could at

least have arranged it so I could have learned modern English."

"Modern English?" Gorsh echoed blankly. "But that's what you speak already, isn't it? At least, that's what the ancient recordings call it." His smile was innocent.

"OK, have your fun," John said. "You know what I mean. The language everyone speaks around here."

"What was the use, if you were not to live?" Gorsh shrugged. "And now that it seems you will have a chance to live, there is plenty of time to learn it."

"A nice country philosophy," John observed. "But when do I get out of here?"

"Right now," Gorsh answered. "As soon as the nurse brings you some clothes. I'm anxious to show you our towering skyscrapers with their hundreds of stories and," he grinned mockingly, "there are hundreds of reporters waiting at the hospital entrance to take your picture and interview you."

"Hey, give me a little time to get used to things before that," John objected, laughing.

A nurse entered with some clothes. The next few minutes were silent ones as John eagerly dressed. He puzzled over the fact that the clothes were the same type as those worn by the men in the group he had first seen. He had assumed in retrospect that they had been on a picnic or outing of some sort, and that back in the city they would wear clothes designed not so much for hard usage as for appearance.

A hasty, furtive glance showed that Gorsh was still wearing the rough clothing, though his guns were missing. He decided then and there that he had a lot ahead of him to learn, and the best way to learn it was to

keep his mouth closed and his eyes open.

"There," he said, standing up after fastening his shoe straps. He took several steps, swinging his arms to loosen up. He couldn't remember ever feeling better.

Gorsh led the way to the door. As John stepped through the doorway he halted in amazement. Instead of the hospital hall he had expected to encounter, he found himself in a large natural limestone cave. Memory prodded him. This was a part of the caverns only two miles from the dry granite cave where he had built his sleeping chamber. It had been owned by old man Harper, who earned a small fortune showing tourists through it.

He had been in it several times and knew every inch and stalactite of it. Fifty feet away across the stream were Winkum and Blinkum, the limestone pillars estimated to be a million years old. This was the middle cavern, two thousand feet from the entrance.

JOHN PIVOTED and looked at the outside of the so-called hospital room in which he had spent ten days. It was a box-like structure of plastic. From the outside it was quite transparent, he saw. Obviously a plastic that passed light only one way, or else the blue-green color on the inside was due to a half-silvering process that gave the same effect. He could see into the room but not out the other side.

There were two lean-tos nestling against the larger structure. One of these burst open now. A boyish figure John recognized as Rag rushed out. She ignored him and talked rapidly to Gorsh. John tried to pick out words, but she talked too fast. When she finished Gorsh looked up at John.

"So you remember this place," he said.

John stared at him, understanding dawning in his eyes. He turned to look at Rag, who suddenly blushed and seemed torn between a desire to run and a desire to stay.

"I don't need to read your mind," John thought. Rag nodded her head, then shook it in utter confusion.

"All right!" John turned to Gorsh determinedly. "The situation isn't funny any more. This isn't a skyscraper and there aren't any reporters and Hollywood scouts. Rag has been watching me hush my teeth for long enough to know me. The fact that you aren't wearing your guns means that you trust me now or else you only have to lift your finger to have me shot by someone else. Tell me what this is all about."

"I was just going to," Gorsh apologized. "What do you want to know first?"

"First," John said, taking a deep breath, "what is the condition of the world? Are you hiding out from the law, or aren't there enough people to need a Law?"

"There aren't many individuals left," Gorsh said gravely. "We, here, number a hundred and forty-three, including you. We know there must be other small colonies of individuals scattered in outlying places, but we have no way of contacting them or knowing where they are."

"We live in what you think of as the Cathedral Cavern," Rag volunteered. "It's really quite modern."

THE CATHEDRAL CAVERN, as John remembered it, had been the most beautiful of the three main caverns. It had been named because of the high shelf at one end where a few dozen evenly-spaced stalactites and

stalagmites had met, and formed columns similar in appearance to the pipe-organ tubes in a cathedral.

There was no longer any possibility of seeing these, however. The entire cavern had been filled in with rooms with plastic walls, ceilings, and floors. Instead of entering a cavern, John and his two guides opened a door and entered a hive of activity.

It was a large, irregular-shaped room. There were dozens of small tables and innumerable metal chairs. At one end was what appeared to be a cafeteria concession doing a brisk business.

At scattered tables were people playing cards. John estimated that every member of the group must be in the one room.

At his entrance every head turned his way. John glanced around with a wry smile, comparing the audience with that he had fondly dreamed of meeting. His gift to the world of suspended animation would be useless with so few to receive it.

Almost half the population was children. Of the rest there seemed no more than a dozen with grey hair. All wore the same blue denim clothing and sandals.

"This is about all of us," Gorsh said to John. "We voted to have a sort of a celebration or party for you in honor of your successful arrival in our times from the remote past. The council wants to accept you into citizenship in our community, and" —there was a sly twinkle in Gorsh's eye—"everyone wants to hear you speak. They won't understand you, but they want to hear you."

Rag spoke swiftly to her father.

"Oh yes," Gorsh said gruffly. "You might as well know the main object of this reception. It is to make everyone thoroughly familiar with your appearance and the sound of your voice

so that no one will shoot you on sight."

"I don't get it," John said. "You say there are only a hundred and forty-three human beings left in the world so far as you know, including me. Then you imply that if there are any more and you meet up with them you'll shoot first and ask questions later."

"Hardly that," Gorsh said blandly. "When we shoot first there can hardly be any questions later, can there?"

Rag took John's arm and tugged at it for him to go with her. She led him toward a close group of several men. John gave up trying to pin down the puzzle plaguing him about these people. There would be time to ask questions later.

IN SPITE of the drab uniformness of clothing the people all seemed individually to be well dressed. They bore themselves well. The men were tall and muscular. The women were good-looking, with here and there one who was beautiful in John's estimation.

He caught Rag looking at him with stars in her eyes, and discovered that she had been unconsciously comparing the other girls with her and rejecting each one in her favor.

Gorsh was introducing each one by name as they came. John felt inadequate, as he always had at gatherings where he met many new faces. He tried to remember the names. Most of them were strange as names.

He shook hands with each and repeated that he was glad to know them. They passed on, content with having heard him talk and having seen his face closely.

One little boy shook hands with him gravely and looked up at him. Then he asked, "Aru fibbow?"

"Un th-w, hund," Gorsh answered for John, and explained, "He thought you were five thousand years old. I explained to him it was hundreds instead of thousands, but I doubt if he knows the difference."

The small group of men who had remained somewhat apart and had not lined up with the rest were finally all that John hadn't met. From their bearing he had surmised they were the council members. The surmise proved correct when Gorsh did introduce them. John classed them as older than himself, and smiled at Rag when he caught the mental trick he was playing on himself. He had gone to sleep nearly five centuries before and slept with no feeling of passage of time. He still considered himself only twenty-five years old.

The leader of the council was an old man who almost exactly resembled Walter Houston as the devil in "The Devil and Daniel Webster." His name was Wig.

Wig's eyes wore a perpetual twinkle. His hard-muscled, wiry body exuded strength; John could see why he was leader of this remnant of humanity. He could have attained a position of leadership in any society.

By the time all the introductions were over John found himself beginning to make a little sense out of the contracted, staccato language. He found himself guessing correctly what was said before Gorsh interpreted it. The council members crowded around him, asking questions about life in the twentieth century. John had almost forgotten that he was completely ignorant of the life of these people when the entrance door opened and a new man came in.

THE NEWCOMER was no different from the others in dress and

appearance. It was only his face. His face was working with a strange mixture of horror and appeal.

John heard a gasp beside him. Then Rag's voice burst out in one shrilly screamed sound.

"She!"

That sound seemed to be the signal. From a dozen different sources shots sounded, blending into one thunderous roar in the room. The face of the newcomer vanished in a mess of torn, ugly pulp. His body jerked from the impact of slugs as he fell.

John's dazed eyes took this in, then turned to Rag. Rag was standing pathetically alone, the knuckles of her fist in her teeth, her eyes fixed widely on the scene of slaughter. Her face was bloodless.

Now pandemonium broke loose. Dozens of excited voices were shouting. John found himself forgotten as the scattered figures in the room moved into huddled groups. Many were disappearing through a door in the back wall that led further into what had once been Cathedral Cavern.

Six men went up to the fallen newcomer and looked down at him. One knelt and felt for a pulse, unnecessarily. When he stood up the six went through the exit door.

"So they do have a use for the feminine pronoun," John thought, "Or was it the name of that man?"

On impulse he started after the six men who had vanished through the door. As he reached it and went through he heard frantic calls behind him. He ignored them, rushing along the narrow passage that led into the middle cavern.

The sound of several shots ahead spurred him on. He burst out into the middle cavern and then drew hastily back as a slug whistled past his ear. Peeking out more cautiously he saw

the six men scattered across the cave, hiding in the protection of limestone pillars.

There were shots coming from the far entrance to the cavern. The sound of these shots was different—more like those from rifles.

The enemy, whoever or whatever they were, were carefully hidden. But there was one figure lying in the open, obviously dead. John tried to make it out in the feeble light of the cave. The cave lighting came from dim bulbs far apart.

One thing was certain. Whether the figure were that of a man or some other creature, it wore clothes different from those worn by anyone John had seen so far: bright red jacket and blue trousers.

Rag was behind John now, trying to get him to go back. Without turning his head he asked, "Isn't that a man out there?"

"Yes and no," Rag said. "Please, John. Come back. You don't know the terrible danger. Please."

He ignored her plea and continued to watch. A figure at the far end of the cavern tried to make a dash for the exit. Several shots sounded. The figure straightened for an instant before toppling. In that moment John saw that it was unmistakably human. The problems he had been puzzling over came to a head. These people who had befriended him and nursed him back to life had lied to him. Not only that, for some insane reason they were killers. They killed all strangers. They killed even one of their own number when Rag screamed the word "She" in a tone of voice that indicated naked horror.

HE HAD to find out what it was all about. How could he find out from people who deliberately lied

and said they were the only people left on Earth so far as they knew?

"We can explain it to you," Rag said behind him. "We've wanted to all along, only we haven't had a chance yet. And we haven't lied to you."

"Why can't you leave my mind alone?" John asked bitterly. "Can't I have the privacy of my own thoughts?"

"Yes!" Rag gasped. "Oh, I'm sorry, John. But you mustn't try to leave. *She* will make *contact*, and then you can't come back. They might even decide to kill you if you won't stay, because you know these caverns. If you were in *contact* we would be found and destroyed."

"What is all this *contact* business?" John asked. "And who is *She*?"

"I can't tell you right away," Rag whispered. "You wouldn't understand. You couldn't."

Part of John's mind had been busy recalling all the things he had known about these caverns. He had known every inch of them. Back of him, before coming to the Cathedral Cavern, there was a small opening off to one side. That opening led into a tortuous passage that led to an exit almost half a mile away.

"O. K.," John said suddenly. "Let's go back. But I'm not going to stand for any more mind-reading, understand?"

"I won't, John," Rag said contritely. "I promise."

"All right. You go ahead," John said.

Rag started back through the tunnel with John right behind her. He looked at her slim shoulders, the back of her head with its brown, unruly hair, and doubts assailed him as to the wisdom of what he was going to do. Then he remembered that they had told him there were no more people than those right here. He realized

that he had to go out and find out why this small group bid, and killed. He couldn't be sure of finding the truth here. They would probably tell him a story calculated to keep him content, and it might not be true.

The side opening was just ahead now, up a short, steep slope. Rag was even with it. Now she was past it and John was even with it. He took one last regretful look at Rag, then silently ran up the sharp incline. The black hole yawned in front of him. It was a tight squeeze.

In absolute darkness he felt his way, memory alone telling him which way to turn at each fork in the passage.

JOHN HADN'T realized how much he had missed the sky and the open air until he pushed through the thick mat of bushes that covered the exit. The sky was a light blue with filmy white clouds hovering lazily. The air was a hot breath after the coolness of the caverns, but it was laden with a thousand smells of growing things, and a thousand small sounds made by unseen insects and flitting birds.

He peered back into the opening and saw a flash of light which indicated pursuit. Running at an easy trot he soon lost himself in the trees that had grown up into a sparse forest over what had once been farm land. He didn't stop until he had put a good mile between himself and the pursuit.

Then he sat down on a fallen tree and thought about what he would do next. He had no intention of blithely walking into anything. Even if Rag and her companions had lied, they must have had some reason.

Their fear of that mysterious something they called *S&c*, and their fear of a mysterious fate they called

contact, had carried over to him so that he instinctively feared them without knowing what they were. He had to find out what they were, and also find out if there were many more people left on Earth, or whether those men he had seen with the red coats and blue trousers were a wandering band of cutthroats.

The fact that rich farm land had been allowed to go back to the wild indicated a lack of need for the huge quantities of food demanded by a large population. He had just covered over a mile of what five centuries before had been nothing but farms. And today there was not even a house!

John tried to recall what town had been nearby. Small towns used to dot the landscape every few miles. He could recall the names of most of them, and there should have been one almost where he was resting.

He finally decided to march straight ahead, going east, until he struck a road or a house or at least met someone, if there was anyone to meet. He wished now that he had a gun.

Another quarter of a mile and he came across the remains of stone and concrete foundations of houses, regularly laid out. The wood had long since decayed into a peat soil, from which lush weeds reared their heads.

WITH AN abruptness that caught him by surprise, John heard a rushing roar overhead. Startled, he looked up through the trees. The sky looked back innocently.

It had sounded a little like a jet plane, but had lasted no more than two seconds. Still, after five centuries, jet planes, if they still existed, probably flew much faster than sound. Perhaps even a couple of thousand miles per hour.

As his eyes were searching the sky, they caught a movement and settled on it. A fast-moving plane above the clouds. It was in sight less than two seconds, its silvery shape jumping from behind one cloud to the next. Several seconds after it had vanished another rushing sound drifted down to John's ears.

"So there *are* people!" he exclaimed aloud. "Civilization has gone on along its predicted curve instead of vanishing."

He felt vaguely uncomfortable about it. Now that he was away from Rag and the others, he could see them more clearly. Even though they killed, even though he had seen them literally vie with one another to shoot down one of their own numbers, he couldn't imagine them as ruthless outlaws and killers. He couldn't conceive of Rag being in love with him and still lying to him.

And who or what was *She*? That word might not even be the feminine pronoun any more. It might be a proper name. Or it might be something unnameable.

The plane might have been flown by some being from another planet! But that didn't ring true either. If that were the case he couldn't see any reason for secrecy. Rag or Gorch could have told him about that at once instead of stalling on the excuse that he couldn't understand if they did tell him.

A TWIG snapped behind John. The report was like that of a rifle in the hushed semi-forest. He whirled around. A girl stood fifteen feet away, a frown of concern on her face.

She was tall, her short-yellow skirt revealed long clean legs tanned a soft brown. Her snug boots of red doeskin were exquisitely ornamented. Above the short skirt was a light-gray coat

of feminine design. Underneath the coat was a white blouse.

She wore no hat and John could see that her hair had been set by an expert hairdresser. Its blonde sheen did not come from simple daily combing.

"Well," she said. "Aren't you going to kill me?" She smiled politely at him after her question.

John stared, surprised that she had talked to him in what must be ancient American to her. Did she know about him? Suddenly he realized that her lips hadn't moved when she talked! A crazy thought popped into his mind. Without thinking, he asked, "Are you *She*?"

"Of course!" she answered, her lips immobile. "Isn't it obvious? You are one of the individuals?"

"I don't know what you mean," John said. "But if you are *She*, you don't look so fearsome to me!"

She smiled absently at him, a puzzled light in her eyes. John's eyes were frankly admiring. He could not remember having ever before seen such a perfect woman. Her face was beautiful without being the characterless beauty that was considered best in 1949. Her form was lithely feminine, with more than a hint of capableness and strength. There was a word for her type of beauty even in 1949: thoroughbred.

"I know about you now!" *She* said suddenly, her face clearing. "It's obvious you fell into the hands of the—what we call Individuals. There are quite a few of them in various backward districts such as this. I'm surprised they didn't kill you the moment they saw you."

"Why do they kill like that?" John asked.

"It's a fixation," *She* said. "Civilization progressed, but not all people progressed with it. When the Last

Stage was at hand, many balked. Democratic government says that the majority rule, but when the majority decided, these still refused to abide by the decision. They went their own way. They taught their children that death was preferable to the new way. Their children in turn taught theirs, only by then it had become a holy war to be carried on forever." She shrugged sadly.

"I see what Gorsk meant now," John said, surprised revelation in his eyes. "They're what we used to call the die-hards, only they call themselves individuals. But they mean the same. So they weren't lying. But tell me, what did they mean by *contact*?"

"It's doubtful that you could understand if I explained," She said. "It will be much simpler to give you *contact*, and then you will know almost immediately."

She advanced with slow gracefulness. Her clear blue eyes looked into John's invitingly. He thought, "How sane and happy She seems. I'm beginning to see that the human race has really advanced a stage in evolution. She is as superior to me in every way, as I am to the Neanderthal."

She stopped before him, her eyes only slightly lower than his own. Her hand reached out to touch him. A shot thundered from close at hand.

RAG WENT only a few feet after John climbed into the small side tunnel before she missed him. At first she thought he had returned to the middle cavern. She ran back.

Not finding him, she retraced her steps slowly until she came to the place where he had turned off. She saw his footprints going up the shelf, remembered the small opening. It didn't lead anywhere except into a maze of dead-end bores, so far as she knew. She sat down to wait for him to come back out.

Her active mind reviewed the conversation at the opening to the middle cavern, and the adroit way John had shamed her into stopping her mind-reading. He had confessed before to knowing these caverns, and perhaps at one time there was a way out of the caves through that maze. It might be possible that he could break out.

She hesitated between running after him and trying to get him to give up his rash plan to escape, and running for help to go with her and force him to come back. She decided on the former. Wasting no further time she ran up the steep incline and slipped into the black opening.

She had gone only a little way when she heard someone following her. She turned to look back. A flashlight turned into her eyes and blinded her. She gasped, startled and afraid.

"Don't be afraid, Rag." It was the voice of Wig, the chief. "I gather that John Cole is escaping and you are running after him."

"Yes, Wig," Rag said swiftly. "He thinks we have lied to him, and doesn't trust us any more. He's escaping so he can find out things for himself. We've got to stop him before it's too late."

Wig turned the flashlight toward the floor and picked up John's footprints. He pushed past Rag. She fell in behind him, the two traveling almost at a trot.

They reached the exit seconds after John vanished through the trees. They did not dash out into the open as John had done. Nor, when they found his trail and began to follow, did they rush along carelessly.

While Rag searched for signs of the way John went, Wig kept ever alert, his hands on his guns. No word was spoken. Each was conscious of the danger present about them.

Rag hissed softly when she found

traces of someone who had preceded them on John's trail. Wig glanced quickly at the new prints.

From then on, if John had been able to observe them, Rag and Wig showed a skillfulness in being inconspicuous and noiseless that would have amazed him.

They stood breathless, watching, while John looked up and saw the girl. They watched her as she fixed her eyes on John's and advanced toward him. They saw her hand reach into a concealed pocket and withdraw the needle. Then Wig aimed carefully and pressed the trigger.

JOHN'S ATTENTION was snapped back to his surroundings at the sound of the shot. For the first time he became aware that the girl before him was holding something in her right hand. He stared at it dully, his mind going cold at the realization that she held all that was left of what had been a hypodermic needle.

Then Wig stepped into sight around a clump of bushes, followed by Rag. Wig held his gun ready, a cold light in his eyes. He gave John a brief sardonic smile, then turned his eyes to the girl.

"I suppose you wonder why that shot didn't go for your brain," he said coldly. "The reason is I want to have a talk with you, and one unarmed *She* cell, nicely isolated from the others for the moment, is a very good way to do it. Will you agree to a talk? Or should I kill this girl at once?"

The girl studied him for a moment, then nodded her head without speaking.

"This young man," Wig began, "is not exactly one of us. He was born about five hundred years ago, and is here now because he discovered the secret of suspended animation. We've

proven that beyond doubt. I can give the details of how we proved it, if you care to hear them; but there are more important matters to discuss."

"Go on," the girl said calmly.

"He doesn't know about you yet," Wig went on. "I doubt if he can even understand what you are. I'm asking you to leave him alone—and us—until we have a chance to present our version of things as they are today."

"I'm sorry," the girl said. "You are members of a small band of backward individuals who don't fit into modern civilization. This man, John Cole, is a representative of the civilization of five hundred years ago. We are not going to permit him to remain your captive. His discoveries belong to mankind."

"To mankind, yes," Wig said softly. "But not to *She*."

"Mankind is *She*," the girl said quietly. "There was a day when a small handful of individuals could set themselves up as having more perfect judgement than the majority, and proclaim themselves the so-called saviors of humanity: That is what you are doing, Wig. You can't realize that you are incapable of really knowing. I who am a cell of *She* should be in a better position to know if being an individual is better, and I say it isn't. Don't you realize you're like a mother hen who keeps the ducklings she has hatched from going in the water?"

"You capable of knowing?" Wig echoed. "Even if you disagreed with the majority, as I do, you couldn't do anything about it. There's no antidote for you. No way to become an individual."

"**JUST A MINUTE,**" John broke in. "I'm sick and tired of all this mystery. I may be from an age before all this began, but I'm certainly

able to understand it if you explain it."

"It amounts to this, briefly," Rag said. "You know that I can read your mind, and can stop reading it if I want to. Suppose that I couldn't stop? Suppose that every thought in your mind went into mine at once, and there was no way I could stop it. Suppose you had, the same thing. Then every thought originating in my mind instantly went into your mind. Suppose, moreover, that this interchange was so perfect and complete that it would be impossible for either of us to know whether any particular thought originated in either of our minds. And on top of that, suppose the thoughts coordinated themselves so perfectly that we had, in effect, one single mind, utterly incapable of differentiating itself into its two separate component minds.

"Your two eyes each receive impulses which they make into the mental image. They coordinate so that the mind builds a single three-dimensional image. If your eyes and mine did the same, I could stand on one side of an object and you on the other, and our one mind would get—not a three-dimensional view from one point—but a solid image; something the single mind cannot possibly imagine.

"That's just a small beginning of what *contact* is. Not two individuals becoming one mind, but millions of them becoming one mind.

This group mind is what is called *Sac*. It is self-aware. It's an individual entity, just as the aggregate thinking of your own millions of brain cells results in your own mind as a self-aware entity. It's immortal and enduring so long as the cells—the human units—are in any great numbers. Those units can die without changing the greater entity in any real manner.

"Now you have it. You know about as much about it now as you would know about psychology, if all you knew was that the mind is the functioning of the brain."

"With a few slight inaccuracies, you are right," the girl added after Rag had finished. "In the first place you pictured the individual unit as being nothing more than a part of the greater mental entity. That is only partly correct. I have an identity independent of the greater one. I have a name. My name is Joan. I, like you individuals, have two separate compartments to my mind. One is the conscious and the other is the unconscious. The conscious mind is concerned mainly with the details of my own existence, and ordinarily forms no part of the greater mentality. But I may draw on it at will, and it can draw on me at will. A good analogy is the individual's ability to concentrate attention on, say, a finger, and all the sensations of that finger.

"That is where you individuals outside *Sac* have been mistaken. By far the vast majority of the cells of the great mind are almost divorced from it all their lives, except for the benefits they get from it. A man starts to work at something in which he has had no training. He doesn't have to acquire skill by hard study. That skill in the minds of other units is his immediately. Can you play the piano, John? No? If you became part of *Sac* you could sit down at the piano and play like a master without any lessons. You could know all about music."

"But," Wig cut in, "if you were part of *Sac* you wouldn't sit down at the piano because you would be doing the bidding of the majority mind, and you would be just a puppet instead of a man of leisure who could sit down at a piano."

"All right," John said. "I gather this much: someone sometime during the past five hundred years made an important discovery in psychology or biochemistry that made perfect two-way telepathy possible. This discovery created a mind of a higher order than the single human mind. It has certain advantages and certain disadvantages, as all things have. I can see far more of the picture than you think I can. Now I want to ask one question: what produces this thing?"

"It's a drug," Wig answered. "A highly complex selenium compound. No one knows just how it produces the effect it does; but one shot of it, and in a few hours you are part of *S&e*. That's why we have to kill. If one of our number becomes an integrated part of *S&e*, he IS *S&e*, just as surely as your eyes are part of you, John. He can no more follow his own private convictions than your eyes can rebel and look where they wish to."

"And this *S&e* takes in most of humanity today?" John asked.

"All except maybe thirty thousand revel individuals scattered over the globe," Joan answered. "This group headed by Wig will be absorbed within a few days now. I know where they are hiding. The surrounding country is well-blanketed to prevent escape. Even now squads should be dropping from planes with the equipment to complete this task."

"ONE THING more," John asked.

"The children of the people that make up *S&e* have to receive the drug before they become a part of it, don't they?"

"They receive the drug when they are ten years old, if they are normal," Joan answered. "If they're subnormal they are kept out and become menial workers. At present there are three

hundred million individual menials in the world."

"That many?" John said, surprised. "How many others?"

"*S&e*," Joan said calmly, "has almost three billion unit humans."

John formed his lips into a silent whistle.

"Three billion?" he echoed. "And that doesn't include the mental defectives in menial tasks or the children under ten?"

"That's right," Joan admitted.

"And all these three billions form one vast mind known as *S&e*," John went on. "A SINGLE mind, aware of itself and aware that it is one mind, just as I am one mind and aware of it?"

"Yes," Joan said. "And at this moment most of that vast mind is, concentrating its attention through me. Not directly, of course. That would burn my mind instantly. Automatic reflexes prevent that from happening. A unit mind in China at this moment, for example, may be aware of what is going on here only after that information has been relayed through a dozen or more units, each lessening the load on me. There is a maximum of perhaps one hundred minds in contact with mine at any one time, the others being shunted away and seeking other contacts through the ones actually in contact with me."

"All this has developed from the simple discovery of a selenium compound that produces perfect two-way telepathy," John mused, "which makes possible a real, functioning race mind?"

"Not a race mind," Joan said. "The units function together just as the parts of a machine function together, or the cells of your brain function together. The race mind before *S&e* was a whole only in the logical sense, not in any functional sense."

"I'm beginning to get it," John almost whispered. "I'm beginning to get it!"

HIS THOUGHTS were whirling. Wig's eyes were on him, studying him. Rag's mind was touching his lightly, fearful of his displeasure yet stubbornly determined to follow his reactions. Joan's blue eyes watching him reminded him of the one time he had been on a radio program and had been painfully aware of the cold mike being connected to thousands of radios, blaring out every inflection of his voice.

"One thing more," he asked. "Let us suppose I fell in love with you, Joan. You know what love is, don't you?"

"Yes," Joan replied, amused.

"Well, suppose I was in love with you and you fell in love with me," John went on doggedly. "Would—would we ever have any privacy? I mean—"

"I know what you mean," Joan interrupted. "Consider the fact that every detail of love is going on at every minute some place. If it is beautiful, there are undoubtedly thousands of units experiencing it through the lovers."

"In other words, no privacy," John persisted.

"Privacy is a concept from the dark ages," Joan said serenely. "It is individualistic and has no place in *She*. You will realize that when you are brought into contact."

"Pretty sure of yourself, aren't you?" John asked quietly. He glanced at Rag with a new understanding, and felt a strange thrill as he read her approval of his thoughts. For once he was glad of her ability to read his mind—and withdraw that power when he asked.

"Not sure of myself," Joan replied. "It's impossible to change what is.

All one can do is conform and adjust. And you will find that the world has progressed thousands of times faster since *She* was born three hundred years ago than your contemporaries could have dreamed."

"I'm going to shoot her now," Wig said matter-of-factly. "You have the picture. Joan is of no more use, and is a threat while she lives. Do you understand that?" His tone was worried, anxious.

"Wait!" John said. "Don't kill her." He stepped up to Joan and tapped her carefully on the side of the jaw. She toppled, unconscious.

JOHN WALKED ahead, Joan's unconscious figure in his arms. He felt Rag's eyes on his back, half suspicious and half angry. He felt Wig's gun as if it were centered on the small of his back, though actually it was holstered. As his long legs took him in easy strides back the way he had come, he explained to Wig what was in his mind.

"The way you've been fighting this thing you're doomed to failure," he began. "Maybe we'll fail anyway, and mankind will become just the cells of a vast race-brain with no hope of ever ending it. But you've got to listen to my ideas and then maybe we'll stand a chance."

Only silence answered him, so he went on: "I don't know exactly what we can do, but there are two different angles from which to attack this thing. First, there is the matter of quite a few million mental defectives who might be welded into a machine in some way. Also the children and the few scattered tribes of individuals. Second, I doubt if any serious study of ways of undoing contact has ever been made. There may be an antidote."

He walked on in silence for a while, his thoughts active. Another thought

occurred to him. "The fact that a selenium compound is what produces two-way telepathy indicates that there might be some radio frequency that could disrupt the thing called *She*. If we could discover that, we could dictate our own terms."

"Radio?" Wig asked. "What's that?"

"You don't know?" John was amazed. "But of course you wouldn't. With all the world one vast mind there would be no need for radio or telephones. If there was anything about radio that affected telepathy in the beginning, I suppose radio was almost immediately banned."

"All we need is time. With Joan captive we have something to work on. Also, we have a definite contact with *She*. Do you have drugs so that you can keep her unconscious indefinitely and bring her out of it when we need her?"

"I think so," Wig said grudgingly. "But if any of that would work, it was probably tried long ago. I think it's hopeless."

"I don't," Rag said firmly. "I believe John's going to find the answer and rescue humanity from *She*."

"How about the siege of the cave?" John's thoughts veered to the more immediate danger.

"That won't last," Wig said calmly. "We've had those before. We kill a few dozen and they leave for a time. They never have discovered the Cathedral Cavern."

"But Joan said they were bringing in reinforcements to really wipe things up this time," John said.

"They've done that before, too," Wig assured him. "They squirt the first and middle caverns full of the stuff and leave. They don't know we get our air from the other end."

"They would know as soon as Joan recovered consciousness," John pointed out. "It would be a good idea to

keep her asleep until we've worked out something where we can definitely use her."

"That's right," Wig said. "And drugs have bad effects on the nerves. We'd have to bring her out of it occasionally or she'd die."

"What I was thinking," John said slowly, "was that I could put her in suspended animation. That way we could forget about her until we needed her. It will take about two days to prepare the shot. Meanwhile, I want a lot of electrical stuff gotten together. I remember quite a bit about the principles of radio, and with the help of a few of your electrically inclined men I can probably rediscover what we need to know to build some sort of weapon."

"We have quite a bit of stuff," Wig said. "Picked it up on raids just like we get most of the stuff we use. You can look it over and decide if it's enough."

DURING the days that followed,

John found himself fitting into the tribal life of those around him more and more. From the instant of their return from the outside with the unconscious figure of Joan, and their explanation of new plans, a new life seemed to imbue everyone with ambition and purpose.

It took nearly a week to gather the frogs from which the chemical for suspended animation was to be extracted. During that time, Joan was kept under drugs. John found to be his delight that there was a large and very adequate laboratory. He spent the time while frogs were being collected just examining and familiarizing himself with the equipment of the lab.

Not until Joan was placed in the rocking cradle and the door to the sleeping chamber sealed from the out-

side, did he turn to the problem of recalling all he knew about radio. He found himself in the role of a teacher, building rudimentary experimental setups and showing highly intelligent men and women the basic principles.

He knew nothing about radar except that it required a crystal to produce the ultra-high radio frequencies. With that meager clue his students forged ahead of him.

He had little to do. He found himself spending a great deal of time with Wig, studying Wig's practical nature that had held the small tribe together and kept them secure. He also found himself spending more and more time with Rag.

There were many things to explore. The record library, composed of wire recordings stolen from museums, told him the story of history from the time he retired to his sleeping chamber until the time he woke up again.

It told him of the first blending of twelve minds in a small farmhouse in northern Wisconsin in 2132. By 2134 the resultant mind had found itself and decided it was superior to anything yet produced.

From then on *S&c*, as it called itself, embarked on a war of conquest. It was carried on secretly at first. Also slowly. The acquisition of new minds meant their subjugation to the will of the original few. It was found that it took nearly a year for a new acquisition to be thoroughly absorbed and dominated.

John studied these records carefully. He followed through the details of the final conquest of the United States, completed in 2158, giving a hundred and eighty million human minds to the gigantic complex that *S&c* had become.

In 2165 had come the first international step. Experiment had proved that the telepathic bridge worked

without diminution around the world. Missionaries and agents went everywhere, injecting the fatal fluid.

BY THIS time the rest of the world had begun to suspect the evil in their midst. Individual countries began to resist and to wipe out the fifth column among them.

They were doomed to failure. Guns were of no avail against an enemy whose weapon was a hypodermic needle, and whose victories were permanent.

The iron hand of despotism was as nothing compared to the vast mind that took control of even the most innermost thoughts and molded them. A single will was of no avail against the vast will of the increasing millions of "cells", as humans under contact came to be called.

Thirty-five years after the first international step, sixty-eight years after the first birth of *S&c*, the deed was completed. All mankind except for a few renegade holdout bands in hiding had become one vast intellect, beyond the mental grasp of any single individual, Godlike in its powers and intelligence.

John Cole studied these records and pondered them. He saw that the directives and trends of *S&c* remained the same as they had been at the start. They had been planted by the first vehicle, and were perhaps the very will and ambition of that first man, Andrew Thorne, who had discovered the selenium compound and stumbled onto its effects.

The death of Andrew Thorne and the other eleven had not even been felt by *S&c*. It meant no more to that vast mind for one person or a hundred to die, than it would mean to an individual to forget one little memory. Even less, since all memories duplicated themselves in each human com-

ponent of the whole, if that person ever drew on the whole and used it.

After 2200, with no more room for expansion, *S&c* had turned to a stable development of the entire population into one organic whole. Education had been discontinued except for a well-developed plan of indoctrination and basic training in children under ten. At ten their personality was integrated enough to survive contact. After that permanent step they had merely to draw on the aggregate learning and skill of the whole for their individual needs.

Wars were a thing of the past. Research spurred ahead as a highly coordinated single task. There was no way of knowing what individuals contributed to it. There was no way of knowing the exact origin of any single idea, since at the instant of its origin it became the property of the whole, and entered the conscious mind and memory of anyone who happened to be thinking along those lines at the moment.

Thus, *S&c* had come, and expanded until there was no place else to expand. John saw a few of the evils of a dictatorship in it. Life had little value. *S&c* did not become outraged at the killing of any of the individual units of the whole, as in other times Society had exacted a life for a life. If any individual will balked at personal destruction, that rebellious thought did not outweigh the unconcern of the billions. Thus, as in a dictatorship, quite often the welfare of the individual was subservient to the welfare of the majority and the will of the majority. A majority blended into one single mind!

JOHAN COLE, with Rag as his guide and companion, studied the records. He saw the evils of *S&c*. He also saw the obvious virtues. Rag had

been born with the monstrous thing already full grown, its evils exposed and shown to her to the exclusion of its virtues.

John had been born and grown up in a world where *S&c* was unknown. A world where nations aligned themselves against nations for destruction, where one race set itself up above others, or one culture set itself up above all others. A world where Utopia was just such a place as the world had now become, where all men were constantly in contact with a greater power than themselves, almost infinitely wise.

He knew of the evils that *S&c* had wiped out altogether. No longer was one class starved or exploited while a favored few reaped the rich rewards. No longer did one man set himself up and mold history to his capricious whim.

And no longer was it necessary for a man to spend almost a lifetime studying in order to reach the frontiers of his chosen field of research.

It was Godlike! A man who desired music would sit down for the first time to a piano. A power outside him could take his fingers and play them over the keys, bringing out the finest of music for him to hear. A man who desired to know the secrets of all the great mysteries had merely to open his mind to them.

Surely, the thought came to John more and more often, these advantages more than offset the disadvantages. Joan is right. Desire for privacy of thought would merely be a thwarting complex with a person in contact.

If it turned out to be possible to destroy *S&c* completely and return mankind to its former associated but disconnected segments, wars and eternal friction would come once more. Or so it seemed to John. There would

be suffering. There would be personal ambitions to be fulfilled at the expense of those less ambitious. There would be national unity at the expense of world unity. There would be class struggle. There would be the tedious and inefficient system of educating each individual so that for a few brief years he could be useful to society before he retired.

ONCE AGAIN the pendulum of indecision would swing. Logic would point out that now society would awaken with the whole world developed into a vast garden. Each nation could start anew with all the advantages the dying *Ske* left behind.

Twelve generations of universal peace and prosperity would not go overnight. The discipline of *Ske* would remain to guide mankind. The tradition of *Ske* would be a binding force that would continue to unite all people into a universal brotherhood.

John would again reach the decision that the greatest right of every man is for individual privacy of thought. The right to love in privacy. The right to the thrill of personal achievement. The right to personal reward. Mankind's destiny was with the Gods, and not on a par with a blood cell, a muscle cell, or a nerve cell.

Joan, in spite of her beauty and personality, in spite of her blue eyes, was little more than a skin cell or nerve end of *Ske*! And he, John Cole, was a scientist from the past, holding that one nerve ending under opiate while he devised some method of using it to destroy the whole organism! A hundred-and-twenty-pound nerve end of a half-billion-ton, super-intelligent, almost infinitely wise behemoth.

Rag quietly watched the swing of indecision in John's mind. She had learned to do it without letting him know she was doing it. Her mood constantly matched his thoughts, sinking

into worried despondency when he was thinking in favor of *Ske*, rising to elated heights when he swung to a determination to end the monster mind.

She was in love with John. She knew that, unless he did as Wig and Gorsh and the rest expected him to, he would be killed. Never once did she doubt that he could accomplish whatever he set out to do. To her he was not a citizen out of the dark ages. His experiences were too strange, the world of the past that he came from too capable and varied, his knowledge and ability too great for her to doubt that he was more than a match for even *Ske*!

No one had ever grasped the full thinking power of *Ske* as John did. She marvelled when he detailed in his mind the mental processes of the multibrain mind, capable of holding all possible alternatives in consciousness and weighing their every implication against the background of a billion past experiences, instantly selecting the best answer.

She marvelled at his mental picturing of a world mind with six billion eyes, holding the entire topography of the world in consciousness at one time as a solid thought identical with the actual world.

Rag herself came to know *Ske* as never before. Doubts rose in her mind as well as in John's. She came to realize that it was something too great for any one human to grasp. The futility of it grew on her. How could one man, or a small group of men, destroy what was in the minds of three billion people? It was absurd to even entertain the thought!

She began to realize, as did John Cole, that the real vastness of the conscious mind of *Ske* was not simply an aggregate of billions of individual conscious minds in telepathic contact, but

transcended the aggregate, as the human being transcends a simple aggregate of body cells.

And an unconscious reverence began to associate itself in her mind with the thought of S&e, that was eventually to change the outcome of John Cole's maturing plans for destroying the monster that sat on the minds of men.

WIG ONLY half listened to the young man who was enthusiastically describing the workings of the latest short-wave radio that had been built. He was watching Gorsh under veiled lids.

Gorsh, slowly walking toward the door that led outside, presented a picture of innocent idleness. Yet, yesterday he had been gone out for over an hour. When he came back he had mud on his shoes, indicating he had gone out of the caverns alone.

Wig watched him now as he paused at the door to look around, and then slowly opened it and slipped through.

"Excuse me, Kin," he said to the young man. He, too, walked idly to the door, slipping out a scant two minutes after Gorsh.

He reached the opening to the central cavern in time to see Gorsh reach the far end. With like swiftness he followed, hoping that Gorsh wouldn't pause to look back.

He caught sight of Gorsh often as they progressed through the tunnel to the first cavern, across that to the large opening through which sunlight entered. Gorsh evidently did not expect pursuit.

Before he had gone a mile Wig guessed where he was headed and dropped back out of sight. Now he was more wary of his surroundings than of discovery by Gorsh. He kept his hands near his guns, ready to go into instant action.

He was a hundred yards behind when Gorsh slipped into the small opening to the cave where John Cole's sleeping crypt was hidden.

Silently Wig stole along the base of the hill until he reached that opening. He peered in and saw only blackness. He realized he would have to take the chance that Gorsh was already inside the sleeping chamber. He stepped softly into the cave.

The door to the sleeping crypt was slightly ajar. Wig stole toward it until he could peek in. His eyes glanced only briefly at Gorsh's back, before they were drawn hypnotically to the sleeping face of Joan, almost supernatural in its beauty.

As he watched, Joan's eyes opened slowly. Only then did Wig notice the hypodermic needle in Gorsh's fingers. At the sight of Joan awakening, Wig's hands stole to his guns. He did not move, however, but stood motionless, waiting.

Slowly Joan's head turned until she was looking at Gorsh. She smiled sleepily. Then a change began to take place on her face. Wig watched, amazed.

He had known Gorsh's wife, An, very well. As he stood in the darkness of the slightly opened door, watching, he saw Joan's features begin almost to resemble An's. Finally her lips parted.

"Hello, Gorsh, darling," she said—only in the clipped speech of 2436 it sounded more like, "Logorshdar."

"An," Gorsh's voice sounded choked with emotion. "I've missed you."

"I've missed you, Gorsh," Joan's voice spoke with the inflections that Wig remembered in An quite vividly. "I've been very lonely, but I've held together, hoping that you would join me."

"I will, An," Gorsh whispered hoarsely. "I would this minute if there were any of the selenium drug within



Vital answers were locked in her sleeping brain

reach. Joan's supply was destroyed when she was captured. The others seem to be steering clear of this area right now."

Wig felt the hair on the back of his neck rising as he listened. It was genuinely An, whom he had seen shot down, whose body had been cremated, whose ashes had been scattered to the winds! Yet she was here, talking through Joan as though she were still alive!

Wig understood now why Gorsh stole away. He as well as the others knew of the store of the sleep drug here and of the antidote. It was simple to administer the antidote in a minimum dose and partially awaken the sleeper, then give her more of the sleep drug afterwards.

Yet, how could Gorsh's dead wife come back to life and speak through Joan? He had to find out, but he could not dare let Gorsh know he had followed him and knew his secret.

As softly as he had come he slipped away, retracing his steps to the limestone caverns. Half an hour later he saw Gorsh slip in and mingle with the rest as if he had never been gone.

WHEN HE knew Gorsh was safely back, he dismissed him from his mind and hunted for John Cole. He found him with the radio technicians, studying the plans for improving the transmitter they were designing.

"Wahntaw, Johnco," he clipped.

John followed him as he led the way to a quiet room where they would not be overheard.

"What is it, Wig?" John asked when they were alone. "I've never seen you with such a troubled expression on your face before. What gives?"

"Is it possible for the dead to talk through the living?" Wig blurted abruptly.

"You have me there," John laughed. "In my day there were large numbers of people who believed in life after death. There were people called mediums who were supposed to go into a light sleep when they talked, or spirits of the dead talked through them."

"It is possible then?" Wig persisted.

"I suppose so," John replied. "There must have been something to it, but I've never had such an experience. I never saw a medium. I never heard a spirit talk."

"I did just now," Wig said. Briefly he told John of what he had just seen.

"Gorsh's wife, An, was in contact for a few minutes before she died, wasn't she?" John asked when Wig finished his story.

"Yes," Wig admitted. "But most of the time she was under opiate, totally unconscious."

"So is Joan right now," John said. "What I'm wondering is whether the vast unconscious parts of the mind are also asleep under the various opiates. I can't remember anything of my long sleep. I didn't even have a feeling that time had been passing by, like you do quite often in natural sleep. But is Joan that way? How do we know that *She* isn't very much active in Joan's mind right now while she sleeps? How did she behave when she woke up?"

"She seemed to me to be still half asleep," Wig answered. "Or maybe I just assumed that because she made no effort to escape."

John said thoughtfully, "I wonder if a slight injection of the antidote can be used to just barely restore consciousness. Maybe that's what Gorsh did. Let's ask him."

"I wouldn't advise it," Wig said seriously. "I don't think he should be aware that anyone knows about it. There are some things that it's best to leave alone."

"I guess you're right," John said. "Certainly he knows what he's doing. He realizes that Joan isn't An, and if An tried to escape he would kill her or put her back to sleep again."

John's own words amazed him. In a few short weeks he had unconsciously accepted the code of 2436 A.D., speaking glibly of killing as if it were no more unusual than going to the local grocery store for a dozen eggs. Thinking about that, he realized that he too didn't look on those in *contact* as being entirely human in the same sense that he himself was.

"You think that in some way Gorsh was talking with the spirit of his dead wife?" Wig asked.

"In a way, yes," John answered. "In another way, no. I think that what really happened was this: when An was in *contact* her every thought and memory was gone over by *S&c*. An was incorporated into *S&c*, and became a bundle of associated thoughts identical with the original. That bundle was distributed throughout the billions of minds that make up *S&c*, and continued to have its self-awareness and identity. That's something I'd not thought of.

"I can see what happened now. Gorsh must have divined that possibility and, not telling anyone, revived Joan enough so that he could call into *S&c* and *contact* that thought bundle that was identical with his dead wife. She, loving him and seeing the possibility of his eventually being forced into *contact*, had the will to survive. She did survive, though probably the elements of her entire complex are widely distributed. With perfect two-way instantaneous telepathy

over any distance that would make little difference. The essential thing is that, however distributed in the physical components, the mental components held together perfectly, held together by the will to survive.

"So An isn't any disembodied spirit of the dead, but actually exists in *S&c*, and will continue to do so unless she gets tired of the effort. Then parts of her complex will be forgotten by the humans they reside in as memories. Her self-awareness will break up. She will be gone.

"There may really be a true spirit of the dead An somewhere, but if there is I don't think that what Gorsh talks to was it."

Wig's eyes lit up with triumph. "I see what you're driving at. You're wondering, if perhaps there aren't more such bundles acting like individuals. You're planning on trying to *contact* some of them!"

"Yes," John agreed. "The one I want to *contact* is Andrew Thorne, the man who started all this! I think he was too interested in his creation to ever permit himself to disassociate. I can't deal with *S&c*, because it is too vast and probably of too high an order to deal with. But I can deal with its creator!"

JOHN COLE stood beside the reclining figure of Joan in the rocking cradle of the machine he himself had built five centuries before. His eyes watched her relaxed face and closed eyes, waiting for the antidote to work. On either side of him stood Wig, the chief of the Individuals, and Rag, the daughter of Gorsh.

Behind them, also watching, were Gorsh and three others. Outside the sleep chamber were several others standing guard. And all of them were waiting tensely. They were waiting to hear the voice of a man who had

been dead for nearly three hundred years! A man whose body had long ago returned to the elements, but whose mind, transplanted into other brains, held together by the psychological laws of association even though the various elements of it might be scattered in millions of different living brains, still lived.

Andrew Thorne! The man who created *She!* What would he be like? History said that he had been a biochemist who had specialized in research on organic selenium compounds. History said that he had become famous for synthesizing over one hundred different new selenium compounds.

The record libraries also told in detail how he had discovered the properties of the selenium drug that produced perfect telepathy. He had kept a large number of animals, mostly dogs and rabbits, on which to try out each new drug and observe its effects.

With a selenium proteid which he called Sepro Nine he noticed a remarkable thing. He had been in the habit of feeding the animals all at the same time. He found that among the Sepro Nine animals, when one finished eating, the others also stopped eating, even though they were in different cages and different rooms.

He tried various experiments. In one he isolated a Sepro Nine dog in a room by itself, and whipped it every time he went in. Not only did that dog begin to cringe whenever he entered the room, but also all the other animals that had been injected with Sepro Nine became afraid of him. Their fear of him grew at the same rate as the fear of the brutally treated dog, even though they were treated with great kindness; and no animal

not injected with Sepro Nine feared him!

Here he had a proof of some sort of telepathic contact between animals injected with Sepro Nine. He concentrated his research on this single phenomenon. His next step was to obtain a trained dog who knew many tricks and inject him with Sepro Nine. Two weeks after the injection he tried his major experiment.

He now had seven dogs and twenty rabbits injected with Sepro. Only the latest adjunct knew any tricks. Yet when he ordered the trained dog to perform a certain trick, the other seven dogs and the twenty rabbits performed the same trick!

Here was proof positive of perfect telepathic transfer. The educated dog had never once been in the same room with any of the other Sepro Nine animals.

HE THEN invited eleven scientist friends to his laboratory in northern Wisconsin and demonstrated to them what he had done. After that he had published his report in a scientific journal. And that was as far as history recorded the individual achievements of Andrew Thorne.

The subsequent events were known only by hearsay. It was generally conceded that Andrew Thorne and his eleven fellow scientists had destroyed the Sepro Nine animals and then injected themselves with the drug. What had happened with the first infiltration of the drug? Had *She* come into being at once and dominated Andrew Thorne and his fellow scientists? Had they seen what was taking place and tried to stop it—and failed?

Or had they deliberately created *She* and instilled in it the will for conquest and more conquest? Or—and this was what John Cole thought

most likely—had one of those original twelve dominated the others and become *Ske*?

The answers to these questions could come only by calling up the mind of Andrew Thorne through the contact of the sleeping Joan, and asking them. John Cole had spoken to the assembly of the Individuals the evening before, picturing for them what he thought *Ske* to be. He had explained what he wanted to do, had given it as his own idea, not even hinting that Wig had learned about it by spying on Gorsh when he called up his dead wife An.

Thus, everyone present waited with tense excitement for Joan to open her eyes and for John to call to Andrew Thorne.

John's eyes alternated between Joan and the instrument panel. On that panel was a pointer thermometer with two needles, one registering room temperature and the other the temperature of whoever lay in the rocking cradle. Under suspended animation the two needles stayed together. They both pointed to a temperature of sixty eight degrees Fahrenheit.

The two needles separated slowly, the body-temperature needle rising. It passed seventy and continued on to seventy-six where it paused.

Joan's eyes opened.

"ANDREW THORNE!" John called sharply. "Where are you? I want to talk to you, Andrew Thorne."

At his words a cloud seemed to pass over Joan's face. It contorted almost imperceptibly in pain. Her eyes opened wider and seemed to grow larger, shining with a light of their own.

An electrical tension made itself felt. John could almost feel a vast Presence settle in the room. He felt Rag's hand searching for his and took

it protectively, feeling it tremble.

Joan's lips slowly parted, as though with great difficulty. Her throat constricted as if she were trying to speak.

"Who wishes to speak to Andrew Thorne?" The words came slowly, hesitantly.

"Are you Andrew Thorne?" John asked, ignoring the question. His eyes watched Joan anxiously, glancing at the body-temperature needle worriedly. It hovered at seventy-six, twelve degrees below normal body heat.

"I know you now," Joan's voice echoed hollowly. "You are John Cole, who knows the secret of suspended animation." Then, after a full minute, "Andrew Thorne is dead."

"Who are you then?" John asked.

"I am *Ske*," came the answer.

"But Andrew Thorne can't be dead," John objected. "He would have had the will to live and watch your development, *Ske*." His eyes again glanced at the body temperature meter.

Joan's head turned with great lassitude until her eyes could see the meter. They studied it silently for a while, then her head turned back so she could again look at John.

"I see what you have done," her voice whispered. "I have probably underestimated the possibilities inherent in you, John Cole."

"You haven't answered my question," John persisted.

"You have underestimated me, too," Joan's voice spoke. She was silent for several minutes, a smile hovering on her lips. Then she spoke again. "There is a psychological law that eventually brings each individual ego into my central orbit, so that it is One with me, and is no longer an individual. It is the same law that operates in your own mind; John Cole, and in all healthy minds. Its opposite is the breaking up into separate personalities in the schizoid mind, which is the

breaking down of the law of Unification. Andrew Thorne had the will to survive and did survive for over a century; but the will needs stimulus to continue, and with the final development of my being to encompass all mankind his curiosity waned. He blended into my being and became One with me."

"Then you are Andrew Thorne?"

John asked.

"No," came the answer. "I existed before Andrew Thorne and his discovery of the chemical that produces perfect telepathy."

"How?" John asked, startled.

"THERE HAVE always existed a few individuals among men who were telepathic to a certain extent, so that in each generation there were always many thousands. Speaking in terms you know, the subconscious minds of these individuals were connected telepathically, though not perfectly so, nor constantly so. There was, however, a large enough permanent body of natural telepaths so that I came into being and remained, a self-aware unit whose elements were the subconscious minds of many thousands of human beings. Over the years and centuries they died one by one and were replaced one by one from the next generation, so that my continuity was uninterrupted. Thus, when Andrew Thorne discovered the selenium chemical he did not bring me into existence, but merely tapped my being, for two of the original twelve were already, in their subconscious, a part of me.

"I have used terms you can get meanings from, but I wish to point out to you that those words cannot convey an accurate picture of the reality, and therefore the picture I have given you is only a very rough approximation."

It was John's turn to be silent. His thoughts whirled as they churned over this new facet of the vast intellect speaking through Joan. It had existed even before the discovery of Seps Nine! The discovery of that chemical had merely opened up to it a positive method of incorporating all mankind into its being!

John tried to picture it by analogy. Suppose he were born paralyzed, so that his mind could only control, say, his eyes? By no act of will could he become aware of his legs or hands. Then a drug is discovered that establishes the neural channels to the rest of his body, and slowly his mind takes them in and is aware through them, controlling them.

In the same way Sêe had been confined to those who were natural telepaths. Try as this vast intellect could, it could not incorporate anyone into its complex who was not susceptible to telepathic impulse. And even with those it was resident in, it had difficulty in controlling. Those individuals were unaware that they were a part of a greater individual of a higher order. Or were they? Could this Sêe be the anthropomorphic God?

John shook his head in bewilderment. The thing was too vast for comprehension. Only its basic elements were simple enough to understand. The whole thing rested on two-way telepathy which seemed to do two separate things. First, it was able to duplicate a mind in other minds and so identify it with the original mind that when that original mind was destroyed by death its duplicate continued in those other minds. Second, a unifying principle created a single ego above the individual ones, just as all the thoughts in a single mind are unified into a single ego called the self.

The first aspect of this phenomenon

would account for the belief in immortality. The second would account for the personal God. Yet, if that were so, and there were nothing else, then the so-called spirit world had always been resident in the aggregate of living minds of living people!

John recalled all he knew about so-called mediums who went into trances while spirits of the dead talked through them to their loved ones. Now he could see how those "spirits of the dead" might be actually remnants of the psyches of the dead persons that had crept over into the subconscious of their loved ones, and in the presence of the medium—a more nearly perfect subconscious telepath than the average person—they were able to cross over the telepathic contact established between the medium and the person present, and speak.

He forced himself back to his surroundings. Joan's eyes were watching him, two dreamy pools of blue from whose depths gazed something built on as grand a scale as the sun itself. He felt them drawing him, inviting.

His face was twisted in an agony of desire, fear, and determination as he forced his fingers to inject enough of the sleep drug to kill the antidote and send Joan back into suspended animation.

After he had done it he stood there watching it take effect. And around him the others also watched, while not a sound broke the silence. A memory came to him of a night when he had stood alone on a high cliff overlooking the Pacific which stretched to the far horizon and to mysterious dark and unguessable depths, and listened to the hushed roar of waves as they emerged from the ocean and broke against the shore.

Joan's eyes closed. The body-temperature needle started its slow journey down to meet its mate, the

room-temperature needle. John's eyes turned to meet Rag's. For no reason he kissed her.

AS THE days passed a new spirit seemed to settle over the community in the Cathedral Chamber of the limestone caverns. Lookouts and scouts reported that planes were dropping equipment and men in a large circle whose diameter was several miles and whose center was the caverns. She was planning something. Everyone spent idle moments discussing what it might be, and why there wasn't an all-out drive to overwhelm them.

The men who were experimenting with radio worked at fever pitch. They were exploring and abandoning circuit after circuit, going farther and farther into the short-wave bands and into the long-wave bands, and studying each new problem as it came out.

John Cole moved from one activity to another, listening to reports of progress, offering suggestions. It was no longer possible for raiding bands to go out and bring back materials and food. The ring had filled in and tightened so that nothing could pass it. The Individuals were under siege.

A constant guard was kept in the small cave where Joan lay in suspended animation. Wig had decided to do that to prevent Gorsh from stealing there and reviving Joan sufficiently to talk to An. Both Wig and John decided that that would be better than letting him know they knew his secret.

Rag spent most of her time following John around. But she kept a constant watch on her father, worrying as she saw his face grow more haggard each day. She had read Gorsh's secret in John's mind, and now her mental fingers often touched lightly into Gorsh's mind to see his

thoughts, and those thoughts gave her grave cause for worry.

Gorsb was torn between duty to his companions and his desire to join An. He now realized that all he had to do to join An was to escape to the lines of *She* that encircled them and be injected with Sepro Nine and he could then be in contact, and he and An could be together again.

Others also seemed to be torn by the same conflicts. More than one person had lost a loved one from contact. Everyone now knew that to die an Individual meant extinction, so far as could be known; but that to be in contact and then die did not mean actual death, since the mind carried over into the aggregate mass mind and retained its identity after death of the body.

More and more often John encountered small groups talking among themselves. They would become strangely silent and secretive as he approached them. He realized that the seeds of mutiny were sprouting.

They were even growing in his own mind. He found it harder and harder to see the validity of the arguments against the domination of all mankind by *She*. What were those arguments?

They reduced to only one: that every man should have a right to the sanctity of his individual self. Privacy of thought. Only with privacy of thought and the exercise of individual judgement could the individual develop character. Character could not develop where some stronger mind dominated and guided constantly.

BUT DID *She* dominate that much?

That was a question that couldn't be answered so easily. Certainly *She* did not permit any individual psyche to become so strong as to dominate large parts of the population and clash with other and similarly strong wills.

But, aside from criminal and destructive tendencies, did *She* permit unrestricted individual development of character? And if not, was the desirability of individual development not perhaps an outmoded idea?

Mottos and catch phrases kept recalling themselves to John's mind. "Look to the Higher Power for guidance." "Ask and ye shall receive." And a thousand other expressions taught in the twentieth century and before that: Wasn't the setup now, in 2436, the goal, the ideal toward which humanity had reached throughout its history?

It was that goal except for one thing. Man no longer had a choice. The hypo of Sepro Nine was not held back until the individual asked for it. It was used by force.

Even in the dark ages, when men were forced to accept the Christian faith or die, they could perform lip service while their inner beliefs were inviolate. Before that, when the Romans slaughtered Christians, those Christians could save themselves by disavowing their faith in public while keeping it in private.

The whole thing reduced to one principle: every man should be allowed to make his choice—and to change his mind again after that choice was made.

After John had struggled through to this clarification of ideas, his doubts ended. He had a definite purpose, a definite goal. *She* must be countered with an invincible weapon and brought to heel—or else! *She* was not God, though perhaps closer to that concept than any other thing. If everyone on Earth were killed, *She* would be dead also. If telepathy were ended completely *She* would be just as surely destroyed, but without harming a single human being!

With his own ideas clarified John

spoke to the others. He explained to them what their goal must be and showed them why. He pointed out that if they failed humanity would be forever dominated by *She*, and that therefore the future of the entire human race rested on their shoulders. From then on he noted with gratification that there were no more furtively quiet huddles.

"IT'S FINISHED, Johnco," the young man, Kin, said quietly. John glanced up with a smile.

"At last," he said. "Now we can try the final experiment; revive Joan and bathe her in one frequency after another until we find the one that disrupts the telepathic connection."

"Personally," Kin said, "I think almost any frequency in the short-wave band would do it."

"So do I," John agreed. "But we don't dare risk failure. The moment we try radio waves *She* will know it, and if we don't find the right one at once we'll be bombed out of existence. Don't think for a moment that the instinct for survival isn't strong in that vast mind."

John took a last look at the notes he had been working on, then he rose from his desk and followed Kin in search of Wig.

"We're ready for you to bring Joan over now," John said when he found Wig.

"You are? Good!" Wig grunted. "We won't waste any time then. The latest reports are that the circle has moved closer."

"Get that bank of broadcasters warmed up, Kin," John said. Kin turned toward the direction of the workshop, while John and Wig went toward the assembly hall which opened to the tunnel leading to the middle chamber and outside.

Along the way they picked up oth-

ers, so that when they emerged into the sunlight there were two dozen of them, all armed with the powerful automatics that seemed to be the only type of gun in existence.

A lookout at the cave entrance reported the circle was still moving in, slowly.

"The scouts over near the cave where Joan is signal that the line is less than a mile away from them now," he said.

"We'll have to hurry then," Wig said crisply. "Come on. Let's go!" He started down the trail at a fast trot, followed by John and the others.

The trees and the rolling hills prevented them from seeing very far in any direction. Each man carried a gun ready as they threw caution to the winds and fan.

Before they reached the cave they heard the first sounds of gunfire.

"Spread out!" Wig ordered. "You stick with me, Johnco."

John followed Wig, a little to one side and behind so as to give him plenty of room for shooting if the necessity arose.

The trees were large, widely spaced, providing good protection if it was needed. The men, spread out thinly so that each could find a separate tree to hide behind, trotted toward the sounds of the shots grimly.

THE GROUND dipped suddenly, then began a constant rise. Visibility through the trees increased. The men who had been posted in the cave could now be seen behind trees, their bands darting around their protection and firing upward in the direction of the top edge of the steep bank in whose face the opening to the cave was hidden.

"They're here already," Wig gritted as he ran forward. "Well, we'll just have to go ahead anyway." He shouted

cheerfully, his clear voice carrying ahead to announce his coming.

Tired faces turned at the sound and lighted up with new hope as the desperate men saw the help coming. Quickly the reinforcements took places behind trees where they could command the rim of the hill.

Wig held back, keeping John behind him, until his men had had time to take their places. Then he gave a low call. At the signal firing began in dead earnest.

"Now," Wig said softly. He darted forward, John following on his heels. There was a brief glimpse of the crest of the hill and of a figure that stood up and aimed at them, then toppled forward with more than one bullet tearing through him. Then the mouth of the cave was just ahead. They were in!

"No time to waste," Wig said urgently. "Pick up your chemicals. I'll carry the girl."

Wig lifted the unconscious form from the rocking cradle and draped it over one shoulder like a sack of wheat. John hesitated as if to argue, then snatched up the small box containing the sleep drug and the antidote.

Wig was ahead of him at the cave mouth, waiting for him. When he came up Wig repeated his signal and the firing started again with renewed fury.

John saw Wig dart forward. A silvery streak flashed down and materialized as a small hypodermic needle imbedded in the nape of Wig's neck. He stumbled and kept on. John caught up with him and jerked the thing out, marvelling at the contrivance which was shot at a speed just sufficient to force the needle in, after which the momentum of the plunger forced the fluid out through the needle, emptying the barrel.

Wig came to a stop in the protec-

tion of the trees and dropped Joan on the ground. Then he turned haggard eyes to John.

"Quick, Johnco," he said. "Kill me before it takes effect. Otherwise S&c will learn what you plan to do."

A PLAN FLASHED into John's mind. He couldn't kill Wig. He doubted if he could kill anyone. But there was no time to argue. There were others now, ready to do the job unless he did something quickly.

"Turn around, Wig," he said quickly. "I don't want to look at you when I do it."

As Wig turned his back John opened the box and took out a hypo of the sleep drug. Swiftly he plunged it into Wig's back, pushing home the plunger. At the same time he pointed his gun in the air and pulled the trigger.

Wig jerked from the pain of the needle. He turned, thinking he had been shot. He looked into John's eyes tragically, then, as the sleep drug took quick effect, fell forward. He had lost consciousness convinced that he had been shot and was dying, and that was what John wanted him to think, in case the first tentacles of the mind of S&c were already reaching in.

Before Wig reached the ground ready hands had seized him and were lifting him. Others were picking up Joan. While the others laid a cover of shots to delay pursuit, John and those carrying Joan and Wig ran toward the caverns.

The going was slightly downhill now. The sounds of shooting behind John stopped. The rear guard, having accomplished its purpose, was also fleeing. It caught up. There was a brief halt while the two unconscious forms were transferred to other shoulders. Then they were all running again toward the caverns.

The yawning mouth of the entrance

appeared briefly through the trees. A man stood there, signalling. The running group halted while anxious eyes read the arm semaphore message.

"We're cut off," the man next to John spat out. His eyes suddenly jerked to John, widening. At the same instant John felt a sharp stab on the chest. He looked down at the glistening thing of glass and metal, his own eyes wide with disbelief.

He glanced up. The man who had said they were cut off was slowly raising his gun, his face expressionless. And John knew that nothing he could possibly say would make any difference now.

He watched as the small dark opening at the end of the automatic rose and stopped, pointed at a spot above his eyes. He saw the knuckles wrapped around the gun whiten. The finger hooked into the trigger moved slowly, constricting.

As though in a slow-motion movie, he saw the finger jerk with the trigger. The small black hole disappeared briefly, to be replaced by a white cloud that as quickly vanished. There was a photographic still-life image of a man, the gun lax in his fingers, his eyes fixed on him. Then a roaring, crushing Cosmos sent him reeling at light speed into black oblivion.

RAG HAD been in her room all morning working on a wedding gown. She hadn't told anyone that she was making it. The materials had been given to her when she was a little girl. She had kept them bidden away until now.

Even in her inner thoughts she was not brazen enough to admit to herself that she was going to make John marry her. She merely recognized inescapable facts. Fact number one, she loved John and no one else. Fact number two, everyone had to get married at some time or other. Fact num-

ber three, she wouldn't marry anyone except John.

The wedding gown was nearing completion. It was sheer white material, the pattern adopted from the latest pictures of such things brought in with other loot from the outside. There were merely ten more ruffles to make and sew on. Then it would be cleaned and carefully put away until the day John proposed to her.

She smiled to herself as she laid it aside. Her thoughts went out, searching for John. In a moment, as soon as she located him, she would get up and leave her room and join him.

Her probing thoughts encountered excited, anxious fragments. She settled on one of them and followed it until she knew what had been happening while she had been sewing.

Alarmed, she probed frantically for John's mind. Her alarm grew as she probed the cavern without contacting him. Still searching, she got to her feet and hurried out of her room toward the radio workshop where she had sensed a great deal of activity.

Just as she reached the door of the radio room a vision rose before her eyes: a man pointing a gun. The gun exploded into action. A roar, and the vision vanished. She knew that what she had seen had been the vivid image in John's mind at that moment. She also sensed that he knew he had been injected with Sepro Nine, and that that was why he was being shot.

The vision vanished, but the feel of John's presence remained. He was not dead! Closing her eyes she concentrated all her powers in trying to learn what had happened. He was unconscious. She hung onto her contact, reluctant to let go.

Suddenly she went cold inside. The thought tentacles of Sâc were reaching into John's mind as the Sepro

took effect. Rag knew the feel of those tentacles only too well, and they sent chills of terror through her.

HER FIRST thought was to break the contact. An instinct forced her to hang on. Never before had she been able to do more than lightly touch the thought probes of *Ske* without being overcome by dread and revulsion. But now love proved greater than fear.

Whatever happened she must stay in contact with John. The terror made her weak. She sank to the floor, her eyes still closed. Then suddenly her fear left her.

As her fear left her she sensed something in John awaken, John—unconscious. Yet she sensed him lying quietly, analyzing his feelings. She knew when he became aware of her, and felt a warm wave of gladness when he answered her thoughts with his own.

Then he became aware of the thought presence of *Ske*. Rag felt his first fear, the quick recovery. Without being aware of it she was now, in her thoughts, standing near him. He was on a large bare expanse of granite. Above them was a dark cloud; behind the cloud was a brilliance that pierced the cloud. That brilliance, Rag sensed, was *Ske*.

John turned his eyes from the cloud and smiled at Rag. She smiled in return and felt something go across from her to him. He seemed to grow larger. Still smiling, he held out his hand. She took it and let him draw her up beside him.

He put his arm around her and drew her closer. Then he looked up at the brilliance of *Ske* behind the cloud. Rag felt John's defiance and challenge. She felt the radiance beating with ever-increasing fury through the dark cloud.

Then John said, "Tell Kin to tear

off the shielding." As in a dream Rag became abruptly aware that she was lying on the floor and someone was bending over her. She heard herself repeat John's words clearly and insistently. Then she was no longer aware of being any place other than with John.

She followed his gaze into the dark cloud and felt the titanic thought power behind it. Impersonal, immense, without form or shape, it reached into her mind and knew her every thought.

Her fear was forgotten. In its place was a growing feeling of awe and worship. Impulsively she tried to drop to her knees. John's arm about her waist held her up.

She felt *Ske* soften and withdraw slightly, then turn its attention on John. His mind opened. Rag sensed *Ske* read in it the conditions John meant to impose, and the weapon he had with which to impose those conditions of conduct.

Abruptly the dark cloud with the brilliance of the mighty thought power of *Ske* hidden behind it, and John standing beside her, vanished. Rag became aware of voices about her and the humming of motors.

She opened her eyes. She was in the radio room and all the shielding that had prevented any escape of radio waves had been taken off the walls.

"That's it!" a voice shouted gleefully beside her. She looked up and saw Kin standing there, a triumphant grin on his face.

JOHNS GROANED at the pain of returning consciousness. A dull throb beat at his scalp. He became aware that he was lying face down on the ground. Groggily he moved his arms forward until he could use them to lift himself up. Every movement was agony.

He rose to his hands and knees

and turned until he was able to sit. Not until then did he open his eyes. He stared blankly around him, noting with uncomprehending dullness the dead bodies scattered around.

He put his hand up and felt his scalp. When he withdrew it he frowned at the blood that stained it. Laboriously he climbed to his feet and stood there swaying unsteadily.

He shook his head to clear it and the wave of throbbing pain blinded him momentarily. When it subsided he stood quietly, letting his thoughts gather themselves as best they could.

He remembered being shot and smiled wryly at the realization that the bullet had just grazed his skull. He wondered vaguely how long he had been unconscious.

A movement off to the right through the trees attracted his attention. He studied it, trying to clear his vision so that whatever was moving wouldn't blur. Whatever it was, it seemed to be growing larger.

It loomed in front of him. He blinked his eyes. His sight cleared. There was a man standing in front of him, staring at him curiously. The man wore bright-blue knee-length trousers and a nicely-tailored tan shirt.

"You're one of the renegade Individuals, aren't you?" the man asked, his voice apologetic. At John's grunt he continued: "Something very strange has happened. I don't know how to explain it except to say that I seem to have become an Individual too. At least I suppose that must be it, because the way I'm experiencing thoughts—it's almost like when I was a child."

"Ohhh." John expelled his breath in a sigh of relief. Somehow, in some way, the right frequency had been isolated and the whole area was being blanketed with it, destroying telepathic contact.

"I—I don't know what to do," the man in front of him went on apologetically. "I saw you and thought perhaps you could tell me what to do."

"Of course," John said soothingly. "Hold me up so I won't fall. I'll tell you which way to go."

JOHN'S HEAD throbbed with almost unendurable intensity now; but he forced his mind to clear. The man assisting him along the path toward the limestone caverns was a new and unguessable factor. John studied him covertly.

His body was well-proportioned. There was grace and capableness in the way he handled it. His face was one upon which character could have molded itself very easily, but it was smooth and serene. The eyes, deep blue and clear, were built to twinkle with laughter or fix in concentration; yet they uncuriously concerned themselves only with the task of walking.

The man didn't care where he went or what happened to him! He had no curiosity, no will. All he wanted was someone or something to tell him what to do. Then he was content. John looked at the slight upward curve at the corners of the mouth, an expression of perfect contentment.

A picture rose unbidden in his mind. It was a large city with tall buildings. Its streets were full of people like this man, milling about, asking each other what to do, searching for someone to tell them what to do. Would that be the result if a city were blanketed with waves that disrupted the telepathic bridge across minds?

He remembered Joan's tone of idle conversation when she asked him if he were going to kill her. Uncurious, polite. And this man plodding beside him had said, "I saw you and thought perhaps you could tell me what to do."

A sickening realization came that even with a weapon that could encompass the Earth and wipe out *She* completely, it couldn't be used if it made everyone as helpless as this man. It would only cause deaths by the millions as confused people made wrong decisions or delayed too long in making any decision in the hope of finding someone to tell them what to do.

John studied the relaxed, docile face of the man. It contradicted everything he had built up about what would happen. And he wondered if it would be possible to develop independence and self-confidence in him.

A shout snapped John out of his discouraged thoughts. He saw Rag running toward him, waving her hand. Behind her came others. In another moment she was in his arms, crying and smiling, her eyes two crystal-blue jewels.

And then John Cole's universe began to spin about him. The world of 1949 mixed itself up with an unreal world of 2436. Kindly people with a twinkle of merriment in their eyes shot each other. Godlike people on whose faces rested the wisdom of the ages plodded dumbly like brutes, obedient to the slightest wish of anyone who cared to direct them.

Cities with mile-high ethereal spires appeared, fragile ornaments adorning the planet. Swift planes darted around the world in less than a day. And then it changed back to 1949 with its almost squat skyscrapers, snail's-pace airliners, and the rush of distracted citizens.

Back and forth; the future and the past, the real and the unreal; and, however mad it became, a pale girl, pathetically small, but with a courage greater than the weight of a mountain, held his huge hand in her own small fingers, guiding....

The mad spiral drew it on itself,

speeding its gyrations as it grew smaller. Faster and faster until the past, present and future blurred into one, blended in the sameness without form. Faster, and closer, until there was nothing but a single point. And toward that point John felt himself hurtling through Time and Space.

"**THAT** DID it. His temperature's starting to climb now." The words and the voice filtered into John Cole's waking awareness, and slipped away as he tried to grasp their meaning.

"Careful!" A different voice spoke sharply. "Don't be too anxious. After all, if this man was willing to wait for God knows how long for this moment, it would be criminal for us to ruin everything by causing him to die."

"Don't worry," the first voice replied. "Everything's under control. I wouldn't be surprised but what he can bear us right now. Ah! His eyes are moving under the lids."

John opened his eyes. He was lying in the rocking cradle of his sleep chamber. Two men were leaning over him, expressions of anxious concern on their faces. One of them stirred deep memories in his mind.

A miner's lamp cast a mild light over everything. John reached his hand without turning his head to guide it. His fingers encountered the toggle switch, flicked it, and the sleep chamber lit up from the ceiling lights.

Memory clicked, bringing nameless alarm. The familiar man was Old Man Harper who owned the limestone caverns! But it couldn't be.

John turned his head slowly until he could see the instrument panel. His eyes settled on the date meter. The number 1950 beamed at him with glistening whiteness.

John closed his eyes quickly.

"Take your time, fella," the stran-

ger said in a soothing voice.

John explored slowly with his hands. Everything was real. He explored the top of his head. The skin of the scalp was smooth and unbroken.

If it had been creased by a bullet lately the job of healing had left no scar. And it had been creased by a bullet. It wasn't 1950, but 2436. Old Man Harper had been dead for centuries.

John opened his eyes again and explored the sleep chamber. A hole had been knocked in one wall. That was the way he had been found—if this were real and 2436 were just a dream.

It could be real. John knew that Old Man Harper spent most of his time exploring for more caves. He might have found this one, tapped on its walls and found a hollow sound. If he had he would certainly have knocked a hole through to see if there were another cave.

But it wasn't real. It couldn't be. Then what was it? John opened his eyes again:

"I think I'll be all right now," he said.

"Fine," the stranger said. "But don't get up. Some men will be here shortly with a stretcher. We're going to take you to a hospital where you can have expert care. Mind answering a few questions while we wait?"

"It depends on what the questions are," John said cautiously. He reached a hand up to a cross bar above him and gripped it. It was solid metal. He put tension on his muscles. He could see them tense under the skin. He felt his arm pull him up a little.

HIS EYES turned back to the instrument panel. On the lower left-hand corner was a screw with its slot damaged. He remembered now that the screwdriver had slipped on

that one and made the nick.

Everything was solid, consistent, and real. But it simply could not be real. Reality was some place else. In some way, and for some unknown reason, *She* controlled his thoughts now. Of that John was certain.

"How long have you been sleeping?" the stranger asked.

John made a definite decision. If he were wrong, if this were reality and the year 2436 still lay in the future, then he would be considered insane. Yet...

"We might as well get something straight here and now," John said coolly. "This is not the year 1950. It's 2436. I'm not in this sleep chamber. In some unknown way *She* is producing all this illusion to trick me. Well, it won't work. No matter how real it seems I won't be fooled."

"What are you talking about?" the stranger seemed startled. "Of course it's 1950! And of course you're right here!"

John groaned inwardly, searching desperately for some fact or clue to break up this delusion. And suddenly he thought, "Since this is delusion I don't need to be careful. I won't die."

He lifted himself up, his muscles feeling stiff and weak.

"Better take it easy," the stranger said.

John glared at him, then lashed at him with a fist. Surprisingly, it landed on the man's nose. John drew his hand back, feeling the numbness of his bruised knuckles, watching the trickle of blood from the man's nostrils.

"Hey, fella," Old Man Harper growled. "You shouldn't do that."

The stranger put his hand up to his nose. His eyes had a thoughtful light in them. "It's all right, Harper," he said. "I'm beginning to understand something." Then to John, "You're

John Cole, the research chemist who disappeared last year, aren't you?"

"I'm John Cole."

"I'm Dr. Forest Lamprey," the stranger said, smiling. He had a piece of cleansing tissue out, dabbing at his nose. "I'm from Chicago, out here for a short vacation. Myself, and my daughter Joan. When Mr. Harper discovered you he went for me right away. That's why I'm here."

"Consistent," John said. "I don't doubt but that I could investigate every word of that statement and find nothing to disprove it."

"You are convinced that none of this is real, aren't you?" Dr. Forest Lamprey asked. "I've noticed you testing things, touching them, doubting even then. You must have a very strong reason for doubting. I've read some of your works, and don't think you'd go off the beam. Mind telling me why you think all this is unreal?"

John listened to him with his thoughts growing more and more confused. What was reality? By every test this was reality, but by every test of memory it couldn't possibly be.

HOURS LATER John still didn't know which was reality. Dr. Lamprey had skillfully administered drugs, stimulants, and whatever else was needed, so that aside from continued weakness John was doing all right physically. He had been carried on a stretcher to an ambulance, and then to a hospital in town where he had been often in his capacity of research consultant biochemist. Many of the nurses were those who had been there before.

The local newspaper was brought to him. It was dated August 7, 1950. It seemed authentic. Millions upon millions of minute details held together with the perfect vividness of

reality. And still John refused to accept it.

Dr. Lamprey studied him and waited. John was aware of his concern.

"Want to tell me about it?" Dr. Lamprey asked once. When John Cole shook his head Dr. Lamprey shrugged his shoulders and didn't ask again.

"You're convinced I've lost my sanity," John said sometime later.

"Not at all," Dr. Lamprey replied. "The reason I don't think so is that you are too interested in discovering a flaw in—" he moved his head in a gesture of all-inclusiveness.—"all this."

"Then you don't think I'll find a flaw?" John asked.

"I don't think so," Dr. Lamprey laughed. "If such a flaw existed here it would be pounced on at once."

"I could take your statement as a flaw," John grinned. "But I'm sure you didn't mean it the way it sounded. Actually, neither you nor anyone else in this world you think of as reality are in a position to judge. I, perhaps, am. I have two other means of checking. My memories of, say, 1947 or 1948, and my recent memories of 2436. And also, I know the how and the wherefore of the apparent existence of all this that you call reality, including you."

"Care to explain it?" Dr. Lamprey asked quietly.

"You're just as convinced that you exist and this is really 1950, as I am that it isn't?" John asked, knowing what the answer would be.

"Naturally," Dr. Lamprey agreed humorously. "I've been convinced of it ever since I was born—or at least as far back as I can remember."

"Suppose I could prove to you that you don't exist?" John asked. "Suppose I could prove beyond doubt that you were part of a subtle plot to either drive me insane or convince me

this is reality, so that I won't try to break free from it?"

"That would take a bit of proving," Dr. Lamprey said. "But I think, coming from a mind as capable of yours, that your arguments would be well worth listening to. I'm interested. And maybe, if you decide to take me into your complete confidence, I can help you prove it one way or another."

"There's one thing against doing that," John said slowly. "If all this is what I think it is, then it is aimed at getting me to do just that, tell you everything, try to prove what I know is true."

"On the other hand," Dr. Lamprey said slowly, "you realize, of course, that your refusal to accept what all of us know is reality can lead you to a mental institution. Could it be that that is the intention of this 'plotter'—for in order for there to be a plot there must be a plotter?"

"I grant that possibility," John replied. "At the same time—Oh, what's the use!"

"I think I know how to help," Dr. Lamprey said, his face lighting up with a sudden inspiration. "You just said that a possible motive of this 'plotter' might be to get you to give away some secret. That implies that if you have a secret, whatever or whoever this plotter is, can't get it any other way. Right?"

John nodded without speaking.

"All right then," Dr. Lamprey went on. "Do you know of any secret of chemistry that you feel sure I couldn't know? What I mean is, could you give me an experiment to do with chemicals? Or perhaps you might do it yourself, and if the results differed from those you know are correct, then you will have proved beyond dispute, at least to yourself, that all this is not real."

"How would that help?" John

asked. "It would advance my belief no further, one way or another. It wouldn't change your beliefs either, would it?"

"Hardly," Dr. Lamprey chuckled. "Naturally, I know you're wrong. Maybe your ideas arise from some dream you had that still seems very real. You've been in suspended animation for a solid year, with your body temperature around sixty degrees. In that year you could have dreamed up a whole universe based on wish-fulfillment, in which you awakened at some future date such as 2436, which you claim is now the real date. You see that, don't you? And you know that dreams can sometimes be so vivid that, even though we know them to be dreams, they still have all the memory attributes of past reality."

"I see all that," John replied. "I think I'll at least give you part of the picture."

"Fine," Dr. Lamprey said eagerly. "I'll listen until you're through. Then I'll ask any questions that I've thought of while you're talking."

IT WAS THREE days before John finished his story. He had found himself weaker than he thought. Dr. Lamprey had made him stop talking more than once in order, as he said, to digest what had been said. When he finished he relaxed and closed his eyes, waiting for Dr. Lamprey's questions.

"What you say is remarkable, whatever basis I might choose to accept it on," the doctor spoke finally. "Did you ever study the history of philosophy? No? Well, you're in for a surprise then. For a long time, and even today a lot of people believe it, it was thought that there is no reality except thought. The external world, the universe, according to this philosophy, is nothing but

thoughts in God's mind, and that even the individual is nothing more than that.

"According to that school of thought there is no matter or substance as we conceive it to be. Perhaps not even time or space in the true sense of the words. The entire universe, all so-called reality, including stars thousands of light years distant, are thoughts in the Universal Mind.

"The individual person supposedly originated, then, as a 'spark' of Divine thought force from God, the Creator. After many incarnations, after many lives, the individual once again merges with his Creator, perfect and immortal.

"What you have just finished telling me, broken down into bare outline, amounts to this: In a time and place which you call 1949 and the sleep chamber where we found you, or its exact double, you went to sleep. That time and that place existed in the material sense, and also that material universe exists at this same moment, but in the year 2436.

"In addition to it, however, a universal mind does exist, but not quite of the type pictured in philosophy. Instead, it is based on physical reality, is actually a functioning of physical matter. It is limited, dependent on a sea of material human brains connected into a positive whole by the action of some unknown chemical that produces perfect two-way telepathy.

"It functions exactly according to the Universal Mind theory, and according to what you say I'm just a thought in this S&e, which I strongly suspect is a carryover from alphabet practice and means Superhuman Entity.

"If that actually were so I don't think there's any way you can break through to actual reality. How do you even know you are you? That's the

big flaw in your reasoning. If you are real and we are thought-stuff, how do you reconcile the two?"

"I think you miss the point," John said. "Actually, I'm probably a very sick man right this moment, lying on a bed in the middle cavern of old man Harper's limestone caverns, or maybe in the Cathedral Cavern. That's the physical location of this whole drama being put on for my benefit. You, Dr. Lamprey, and all else around here, are playing on my mind by telepathy, but you are actually resident in parts of the minds of millions of people. You were actually people in 1950, and all this scenery is actual memory of this same landscape as it was in 1950, memory stored in S&e."

"YES," THE doctor said slowly.

"I did miss the point. Actually we can be aware of nothing except thoughts. No matter what impinges on our sensory nerves, we can't be aware of it until it becomes thought. And once it is thought its actual location is indeterminable. Only its location associations which are also thoughts can make it seem definitely in one place.

"But I can't quite understand your transition. You say that you had been injected with Sepro Nine, but that a radio-wave blanket was on, blocking telepathy so that S&e couldn't take control. That must have failed, then."

"No," John said emphatically. "I'm sure it hasn't. I don't know why I'm so sure, but I am."

"Maybe we could duplicate that radio broadcaster and knock things loose for you," Dr. Lamprey suggested.

"It wouldn't be the same kind of wave," John said. "By every test we could give it, it would seem the same, but it would not be a physical wave at all. It would be no more real than

your nose." John looked at the slightly swollen nose he had punched a few days before and smiled.

Dr. Lamprey rubbed his nose tenderly and returned the smile. "My nose is real to me," he said. "But I see what you mean. It leads to something else we can argue about, though. It's agreed that we can't be aware of anything until it is translated into thought. In other words, we can't become directly aware of a *tabula*. We can only become aware of the thought form set up by light waves exciting the retina of the eye. But according to what you are convinced is the truth, everything in this room is already thought form and has no physical reality. It is memory in the universal mind of what actually existed here in 1950. If that is so, then you should be able to be aware of it directly without the use of the senses, for it's already thought."

"But I am aware of it without the use of my senses," John objected. "My physical senses are in my physical body, and if they were bringing me sensations those sensations would be of things in 2436, not 1950."

"I don't know how we're going to resolve this," Dr. Lamprey said. "It was hashed over centuries ago and no way found to break through. The concept of all reality being nothing but thoughts in God's mind is logically unassailable. Its main objection is that it lends little to any understandable theory on how things behave. It's too universal an answer. The theory that physical reality is different from thought, and independent of thought for its existence, is far more practical to work with. All this that I have always thought to be reality is too vast to dismiss as being brought into existence in order to fool you into doing something or not doing something which you can't guess. I'd suggest you forget about it and accept things

as they seem for the time being, until you get oriented."

"You think I'm crazy, don't you," John said quietly.

Instead of answering, Dr. Lamprey reached into his breast-pocket and drew out an envelope, handing it to John. When John took it, looking at Dr. Lamprey curiously, the doctor turned and left the room, closing the door softly behind him.

Not until then did John look closely at the envelope. In the upper left-hand corner was the return address; that of the university from which he had received his doctor's degree. A twinge of homesickness stabbed at his heart as he read the familiar name.

His hands shook as he drew out the folded sheets of paper. There was a short letter inside. It stated that attached would be the scholastic history of John B. Cole, Ph.D., plus the personal reports on him from several teachers, as requested.

John started to read. As he read his amazement grew. And when he finally laid the reports down his eyes were wide with disbelief.

SHE HAD deliberately lied! That incontrovertible fact stood out in John's mind to the exclusion of everything else for the moment. She had stooped to deliberate falsehood! Common, cheap lying!

The reports stated that he, John Cole, had majored in philosophy and minored in chemistry, taking his doctor's degree in the history of philosophy. It stated further that, though he had been a brilliant student in all his work, he had been highly unstable and had spent eight months in a sanitarium with a nervous breakdown.

He had actually had only elementary logic and the history of philosophy, both beginning courses, and had studied them only enough to get by

on them. And he had never been in a sanitarium for a nervous breakdown.

Yet the evidence as it stood was damaging. And John didn't have the least doubt that if he were able to force Dr. Lamprey to produce the actual records and professors, they would only back up the spurious reports.

That wasn't what bothered him. Unconsciously he had come to believe that *She* was actually Godlike. He hadn't realized how complete that belief had become. A mind vast enough to hold all the details of a whole world in its consciousness as pure thought, regardless of its underlying nature, could hardly be regarded as less than Godlike. But to lie!

Or was he insane? For the first time since he had opened his eyes, the memory of Rag in his arms still fresh in his mind, seeing old man Harper and Dr. Lamprey bending over him and the year 1930 showing on the date meter, John Cole felt the cold flinger of doubt of his own sanity.

If he were insane, then these reports must be true, and he had at one time had a nervous breakdown which he couldn't remember. He would forever live in doubt, suspecting his mad, subconscious powers of rationalizing the irrational.

BUT IF he were sane—and he was, he told himself wildly, trying to still the voice of doubt—then the whole purpose of all this stood out clearly. *She* was deliberately driving him insane, so that if and when he once again returned to waking consciousness in his physical body, aware of his physical surroundings, he would be a helpless pawn in the battle to bring *She* to an end.

Then *She* would triumph. The last of the individuals would go. For all the future the human race would be

immersed in a Universal Mind so that past, present, and future coexisted, and everything that could ever appear real would be nothing but a thought.

The two horns of the dilemma were plain. If he believed his present surroundings, he had to admit he was insane. If he refused to believe them, Dr. Lamprey would be forced to conclude he was insane anyway. In either case he was going to wind up in a nice padded cell in a straightjacket.

Then another thought came. Didn't dilemmas also always prove just the opposite? The conclusion had been reached that in either case he would be locked up and considered insane. How could he decide that in either case he would be set free and considered sane? He took his hand out of his mouth and doubled it into a fist, using the fist for a chin-rest.

The door opened a few minutes later and Dr. Lamprey and two internes came in, worried looks on their faces.

"A nurse reported she heard noises in here that alarmed her," Dr. Lamprey said. "Are you all right, John?"

John stared at the doctor without answering.

"Are you all right?" the doctor repeated, glancing covertly at each of the internes. They started to move slowly to either side.

"Dr. Lamprey," John suddenly said. "Let's assume for the moment that these reports you got are true in reality, and that therefore I am insane. How would you go about curing me?"

The two internes stopped and looked at the doctor with quiet smiles.

"Why," the doctor hesitated at this new turn, "I would have to think it over before deciding definitely. Perhaps call in a professional friend or two. But I think that in your case the procedure would be to place you under hypnosis and try to make you

relieve those scenes that are at the root of the disorder. In that way it is usually possible to bring out the hidden frustrations that produced the hallucinations and relieve the mental tension."

"Then I think I have the answer," John exclaimed. "Send me back to that last moment I can remember in 2436. Make me go on from there just another step. If I'm really insane, that should be the means of at least starting a cure. If I'm sane I'll escape from all this. In either case I should become sane again. Right? And," John's smile was almost imperceptible, "if I simply vanish without a trace, you'll know I was right."

"Yes," Dr. Lamprey said tolerantly. "If you vanish we'll know you were right. Now, let me give you a sedative so you can sleep. You'll have to have a good night's rest before we can do anything."

"Tomorrow morning then?"

The doctor nodded. John closed his eyes and lay back. He didn't even open his eyes when he felt the prick of the needle in his arm. And just before he dozed off it struck him that there was something familiar about Dr. Lamprey that reminded him vaguely of Gorsh. For that matter, now that he thought about it, there was something about Old Man Harper that made him think of Wig.

"**H**OW'S THE patient?" Joan Lamprey pressed the throttle of the station wagon with her right foot. The simple act started the motor, slipped the car into low gear, and shifted gears until the car was gliding noiselessly along the street in high gear.

"He's quite a puzzler," Dr. Lamprey grunted, settling himself comfortably for the drive back to the lodge at the cavern entrance where he and his daughter were spending a much-needed

vacation.

"He may turn out to be more of a puzzler than you think," Joan said, her eyes on the traffic. "I had a chance to take a good look at him when he was on the stretcher, you know. I don't think he saw me."

"Yes?" Dr. Lamprey prompted his daughter.

"There was something disturbingly familiar about him," Joan said quietly. "I'd swear I've never seen him before, and yet I'd also swear that I know him better than I know myself."

"All right," Dr. Lamprey said, chuckling. "Tell me all about him. I'd like to know."

"That's just the trouble," Joan said, biting her lip. "It's like knowing something and knowing you know it, but you can't recall it for the life of you."

"Oh, Lord," Dr. Lamprey groaned. "My own daughter, too."

"What's the matter, Dad?" Joan asked, amused.

"Oh nothing. Nothing at all." The doctor gave a hollow laugh. "I'll tell you about it after dinner. Right now I'm too tired."

"OK, Dad," Joan said, flashing her father a tender smile. She had always been very close to her father. She had never known her mother.

He had told her about her mother when she was twelve, nine years before. It had been a bad appendix. They had waited to operate until Joan was born. They had felt it would be safe. But the appendix had ruptured. A Caesarean section and an appendectomy were performed almost simultaneously, but it was too late. Her mother had died.

Joan stopped at the mailbox before turning into the dirt and gravel road that led to the lodge. Mr. Harper was always complaining about having to run down to get the mail

while his paying guests "passed the darn thing a dozen times a day". There was nothing in it.

AT THE lodge Mr. Harper rushed down the steps to meet them, anxious to find out more about "the boy", as he called him. "Yes sir," he said emphatically. "I remember him. John Cole, he is. Used to hang around here all the time when he was a kid. Haven't seen him since he grew up and went away to college. But it's him all right. I'm sure glad I own that land his cave's on. If he was really in suspended animation for a whole year, that'll be the biggest attraction in the country."

Dr. Lamprey didn't comment. He climbed wearily out of the car and went into the lodge.

"Dad's tired," Joan said. "He'll talk about it after dinner."

"Supper'll be ready right away, young lady," Mr. Harper said. He pulled out his pocket watch and looked at it, then started determinedly toward the back of the lodge.

Joan heard him ordering the cook to hurry up with supper as she followed her father upstairs to their rooms. She knocked softly at her father's door and pushed it open. He was standing at the window, his back to her.

"Something's wrong, Dad," she said, putting her arms around him from behind, and resting her chin on his shoulder. "What is it?"

He reached up and patted her head clumsily.

"Nothing really wrong," he said quietly. "Except that John Cole is insane."

"Oh! No!" Joan dropped her arms and retreated a step.

Dr. Lamprey turned and gripped Joan's shoulders. "Yes," he said. "There's no question about it. The drug he concocted to produce sus-

pended animation, or perhaps the year's effect of a body temperature around sixty degrees, or maybe both. He's completely irrational. It was something he couldn't foresee. No doubt he used dogs or other animals in his first experiments. Unfortunately, he couldn't detect any insanity in them when they recovered. Or maybe he didn't look for it and missed whatever signs of it there were. I don't want to talk about it just now."

"All right, Dad. Lie down on the bed. I'll call you when dinner's ready."

She took her father's hand and led him to the bed and pushed him down gently. Then she took off his shoes. When he stretched out she bent over and kissed him tenderly on the forehead.

"Joan." She halted at the door at the sound of his voice. "Tell me about this feeling you had about this young man."

She came back slowly, frowning in concentration. "There's nothing to tell, really," she said slowly. "When I saw his face I just had a strange feeling that I knew every thought in his head. It was like—well, like—that. That's all." She stopped helplessly.

"Like perhaps you had at one time known him for many years, living constantly with him so that you had heard everything he ever said, and had learned his every habit and mental quirk?" Dr. Lamprey asked without opening his eyes.

"No," Joan hesitated. "Not like that exactly. More like I had been able at one time to read his every thought. More like that. A completeness, if you get what I mean."

"I see," her father said heavily.

She hesitated, but when he showed no further sign of wishing to talk she slipped out, closing the door noiselessly.

MR. HARPER ate quickly. His alert eyes flicked over the table, going slightly bleak when some heavy eater took too much food, mellowing philosophically over the law of averages as they caressed some dainty eater. His lean face and square jaw had reminded more than one person of Walter Houston in his roll of the devil in "The Devil and Daniel Webster".

His eyes paused speculatively on a young man sitting across from Joan Lamprey. He was some kind of a radio technician. His name was John Kinsey. Only somehow everybody called him Kin. Mr. Harper's shrewd mind had detected from the very first time that John Kinsey laid his eyes on Joan Lamprey that he had fallen in love with her. Once he had overheard them talking. He hadn't snooped, of course, but couldn't help overhearing. And he had heard Kinsey call Joan Raggedy Ann. She had seemed to like that, too.

Right now, though, Joan didn't seem to have any eyes for Kin. Her eyes were on her plate most of the time, except when they looked up at the doctor now and then, worriedly. This whetted Mr. Harper's curiosity almost to the bursting point. He wished everybody would finish eating so Dr. Lamprey would tell them about John Cole.

His eyes turned back to John Kinsey in furtive analysis. Kin was a very likeable young man. A wide boyish grin that turned on and off, a self-effacing personality like a shepherd dog. The girl he would win would be the one that decided she wanted him and went after him. Right now, for example, he showed plainly that he was hurt by Joan's ignoring him. She was ignoring him, too. His eyes pleaded across the table so intensely that a blind horse could have seen it. Her eyes studious-

ly avoided meeting Kinsey's, though. And instead of asking her what the matter was, he just stared all the more and suffered in silence.

Mr. Harper snorted in disgust and turned his attention to Dr. Lamprey. He had known the doctor for over twenty years. The doctor and his young wife had come here for their honeymoon when they were first married.

Joan didn't know that, Mr. Harper knew. The doctor had cautioned him never to tell her. That was the one secret the doctor kept from his daughter, that his vacations here were sort of pilgrimages to the shrine of his happiest moments.

Something was troubling the doctor now. Instead of being excited about the discovery of John Cole in real suspended animation, as he should be, he seemed to be carrying the weight of the world on his shoulders.

A couple of the guests pushed back their plates.

"Mary!" Mr. Harper shouted peremptorily. "Dessert!"

A perspiring face appeared in the doorway to the kitchen and surveyed the scene with skeptical eyes. With a loud and mutinous "Humpf!" the face disappeared. The swinging door fanned a couple of times and stopped. Mr. Harper stared at its expressionless surface angrily, drumming his fingers on the tablecloth.

Mary, with a tray of desserts in her hands, watched him through the crack in the door until the finger-drumming stopped and his hands gripped the edge of the table preparatory to pushing back his chair, then pushed open the door with her generous stern and backed into the room.

Free of the door she turned and sniffed in disdainful triumph at the mixture of emotions on Mr. Harper's face and went at the business of dis-

tributing desserts with innocent efficiency.

WITH MOST of the guests nibbling at the desserts Mr. Harper relaxed a little. Finally he dared to remind the doctor of his promise.

"Oh, yes, doctor," he said as though the thought had just occurred to him. "You were going to tell us about John Cole, weren't you? I imagine everyone," he included everybody with a gesture of his head, "would like to know just what you found out when you got him to the hospital."

Dr. Lamprey looked up from his food with tired eyes. They dropped back to his half-finished pudding. He dipped his spoon in it listlessly, then let the spoon drop into the dish:

"There's nothing much to tell," he said dully. "In the hospital we had him feeling quite well, physically, that is. But his mind..." The doctor shook his head sadly.

"What?" Mr. Harper said, half rising in his surprise. "You don't mean he's insane?"

"I'm afraid so," the doctor said heavily. "He is living in a dream world and is convinced that the real world is imaginary. The usual symptoms. Perhaps a little unusual in their grandeur, but traceable to the infant belief in the egocentricity of reality. He insists that I, you, even the earth we walk on, are all illusions—part of an evil scheme of something he calls *S&e* which, as nearly as I can understand him, is some sort of superhuman entity or mass mind, equivalent to the medieval theory of reality's being the mind of God and all things being thoughts in His Mind. Only instead of this *S&e* encompassing the universe, it merely encompasses part of humanity and is trying to take in everybody.

"The pattern is fairly complete,

too," Dr. Lamprey went on. "He is convinced that he alone can save humanity from this menace, and that *S&e* is trying to drive him insane to prevent him from doing it. His background has led him to scientific explanations of it, too. There was some sort of serum called Sepro Nine that produced perfect two-way telepathy between minds. This was used on almost all people on earth, knitting them into one vast network of living minds that in some ways act as individual minds, and in other ways act as one super mind on a plane of thought above the Individual; and that this super mind is *S&e*. He is also convinced that he has a weapon—some sort of radio wave that destroys this two-way telepathy while it is working, and that if he can get to use it he can destroy or at least control this super mind."

"Well, what do you think of that?" Mr. Harper said in an awed tone of voice. "And do you think he's incurable, doctor?"

"I don't know," Dr. Lamprey said. "We're going to try to cure him. As a matter of fact, John Cole seems very eager to have us try. He seems to think we might accomplish something."

"You mean he knows he's crazy?" John Kinsey spoke up quickly.

"Far from it," Dr. Lamprey tried to explain. "He seems to feel that what will happen when we reach the point where we could effect a cure, if he is really crazy, will be that he will simply vanish before our eyes!"

"You know," Mr. Harper said, "I remember a lot about John Cole when he was a kid. Do you think it would be possible for me to get to see him before you try this cure on him?"

"I hadn't thought of that," the doctor said. "I think it might be an excellent idea!"

JOAN LAMPREY tossed restlessly in her sleep, soft moonlight through the window beside her bed painting a study in light and shadow that any photographer would have given anything to be able to shoot. From the changing expressions on her face, she was having a vivid dream—or nightmare.

Her eyes opened suddenly. She lay still for about five minutes, then slipped out of bed and started to dress. The radium-dial clock showed three o'clock.

She finished dressing, all except her shoes. Turning on the dresser lamp, she hastily straightened out her hair a little. After that she left the room, carrying her shoes in her hand.

Stealing noiselessly down the hall, she stopped at a door and slowly twisted the knob. It opened silently. Inside the darkened room she closed the door behind her and stole across the room to the bed. Her arm flashed whitely as she leaned over and shook the sleeping form lying there.

"Kin," she whispered. "Wake up."

"Huh?" came the sleepy response. John Kinsey came awake abruptly.

"Joan!" he said. "What's up?"

"Get dressed, Kin," Joan said in a whisper. "I'll meet you down at the station wagon in five minutes, and hurry."

Ten minutes later the station wagon nosed silently out of the dirt and gravel road onto the paved highway into town. Not until then did Joan relax and begin an explanation.

"I have a queer feeling about this whole thing, Kin," she said. "I think Dad has, too. Maybe insanity is contagious."

"You mean about John Cole?" John Kinsey asked. "In what way? The way your father explained it, it's a very standard, cut-and-dried case. Even the cure is standard."

"Yes, I know," Joan said, biting

her lip. Her eyes stared bleakly at the ribbon of highway lit up by the station-wagon headlights. "But I saw John Cole for a minute when they were carrying him to the ambulance on the stretcher, and I had a very funny feeling about him."

John Kinsey kept silent.

"Although Dad won't admit it," Joan went on, "I'm sure he had a strange feeling about him too. I couldn't sleep when I went to bed, for the longest time. And when I did get to sleep I had some kind of a wild dream. I can't remember what it was, but I've just got to see John Cole. Right now!"

"Why?"

"Because I'm crazy, I guess," Joan said in a strained tone.

"You mean you're to sneak into the hospital to see him now?" John Kinsey asked incredulously. "You'll never get away with it!"

"Oh, yes, I will," Joan answered confidently.

And she did. Half an hour later they were standing before the door to the room where John Cole was.

Taking a deep breath, she twisted the knob and walked in, Kin following.

JOHN COLE sat up, rubbing his eyes and blinking in the sudden light she had turned on.

"Hello, John Cole," Joan said with tight nervousness.

"Joan!" John Cole exclaimed. His eyes turned to John Kinsey and lit up in further amazement. "Kin!" he exclaimed. His eyes darted from one to the other, then became confused. "Or are you Joan? You look like Joan, all right, but you seem to be Rag. Which are you?"

John Kinsey sank into the nearest chair. "I don't get it," he said. "I've never seen you before in my life!"

"That's all right," John Cole said soothingly. "Don't let it bother you."

"How did you know our names?" Joan asked.

"Why are you here at this hour?" John Cole asked, ignoring her question.

"I don't know," John said frankly. "I don't know why I'm here except that I felt I had to see you before they try to cure you." She bit her lip at the slip she had made.

"Don't be embarrassed," John Cole said kindly. "But please, won't you tell me what it was that brought you up here at three-thirty in the morning? It must have been something very urgent—more than just curiosity to see me before the cure. Unless you feel that I really will vanish when they try to cure me, so this is your last opportunity to see me."

Joan found a chair, dragged it near the bed and sat down. She told him of her strange impression when she first saw him. She told him what her father thought—or at least what he said, he thought about him. John Cole listened until she was through. A look of intense sympathy and pity grew on his face as she talked.

"You poor kid," he said when he finished. "But don't worry. When your father works on me in the morning and I vanish, it will all straighten out nicely. You'll all be able to escape this dream trap too, and we'll be back in reality again. Wait and see."

"That reminds me," Joan said. "Dad isn't going to do it this morning. Mr. Harper, who knows you, wants to see you first."

"Old Man Harper?" John exclaimed. "Why? He never did like me. I got in his hair too much."

"He owns the land your hibernating hideout is on," John Kinsey said dryly. "It will be worth money to him to be able to sell circulars with your authentic story, straight from your own lips, as told personally to

him, when he opens the place to visitors at so much per."

"That isn't the reason," Joan said. "Maybe he can really help you, Mr. Cole."

They could hear the night nurse passing on her round. In a few minutes she was due to come into Cole's room so they decided to leave right then.

In the hall John Kinsey whispered, "He really is crazy, isn't he? But how'd he know us? I can't figure that."

JOHN COLE sat in the dark thinking about the strange visit of Joan Lamprey and John Kinsey and what was behind it.

Beyond any doubt this wasn't reality, even though it could not be distinguished from reality. In the ultimate analysis, it might even be as real as reality itself. Joan Lamprey was a composite. The beauty and build of the Joan in suspended animation that they had been bringing from the small cave where his sleep chamber was located, to the limestone caverns where they were going to use her, in their experiment to find a wavelength that would dampen out telepathic sensitivity, and the mind and spirit of Rag, John Kinsey was really Kin. Dr. Lamprey was really Gorsh.

And no doubt Old Man Harper would be Wig. In fact, now that the similarities were apparent, Wig himself was very much similar in every way to Harper as he remembered him from childhood days.

The only thing capable of producing all this was *She*. He had been injected with Sepro Nine and was therefore in contact, so all this was the result of that contact. In some manner the blanket of radio waves that Kin had started up must have failed.

But if it had, this certainly wasn't

what he had been led to expect would result. He was still completely an individual. The only thing different was this substitution of a mental world for the real one. Its setting, 1950, the carefully prepared false scholastic history that convinced these dream characters he was insane; and the authentic detailed elaboration of every minute aspect all pointed to carefully thought-out purpose—and hence to the accomplishment of some purpose.

Was that purpose to find out the secret of the drug that produced suspended animation? If that were it, then *Sac* must be unable to get it directly by reading his thoughts. But John Cole shook his head doubtfully over this possible purpose. It somehow didn't justify the means being used.

Was it the apparent one: to actually drive him insane? That seemed weak. Events can't drive a person insane. Events might confuse, but insanity comes from internal causes, not external events.

But suppose now that, with the evidence Dr. Lamprey had that pointed toward his being insane, he were committed to some institution for the insane, and were never able to figure a way out of this dream world? What would happen to his physical body in the reality of the year 2436?

Wasn't he trying to return to it? That was his hope when the doctor put him under hypnosis and guided him back to that physical body—to stay there. If he was unable to, then his body would be undirected. It would be confused and unable to decide what to do. If it were that way, it might ask someone what to do just as that man had done with him when the radio waves destroyed the source of his intelligence.

THAT MUST be it. *Sac* must be weaving a mental web to en-

mesh him and hold him, so that from the standpoint of the outsider, the person judging him only by the actions of his physical body, he would be either insane or mindless. Unless...

Here was another possibility. With him nicely sewed up in illusion, some other directing personality might easily, through the mechanism of *contact*, be able to take over and fool everyone into thinking it was John Cole!

Maybe that had been done already. Maybe at this very moment the last few individuals that had withstood *Sac* were being betrayed by their belief that he was still master of his body.

He had to get back to it some way. But how? Actually, of course, he was still in his body. He, his mind, was still the functioning of his neutral circuits. "Getting back", therefore, merely meant discovering how to "wake up".

His eyes turned to the window. How high was it above the street? Suppose he jumped out the window. Since the "body" he inhabited now was nothing more than a thought, dashing it to the pavement wouldn't actually kill him.

The psychological laws governing the functioning of *Sac's* mind could not have him fall a killing distance and live. The result would be that in this dream world he would become a smashed corpse. Would it also be the means of his returning to reality?

The more John Cole thought about it the more convinced he became that that was the quickest and surest way of solving the problem. After all, everyone had dreams in which they were falling. Such dreams always woke a person up, because even in sleep a killing fall that completes itself is a psychological impossibility.

He climbed out of bed and went

over to the window in his bare feet. Outside, the lights of the city blinked cheerfully at him. There were so many of them and so many buildings that doubts assailed him. How could all this incredibly detailed picture be anything but real?

He stuck his head out and leaned over. The pavement was at least fifty feet below. If he jumped there would be no possible chance of outliving the fall.

Should he jump? If this were reality, and the world of 2436 were just a dream he had had while under suspended animation, and *She* was just a product of that dream, then he would actually die. If this were really Earth in the 1950, and he jumped, it would be the end.

JOHN COLE'S face was pale, but there was a light of decision in his eyes. He had to take that chance. He had to trust his mind and believe that in jumping he was going to save mankind. If he delayed he might be too late. He placed one leg over the edge.

"Just a minute, Mr. Cole!" The brittle, clear, masculine voice jerked John Cole's head around as if he had been shot. Standing just inside the closed door of the room, in the darkness, was the figure of a man.

As John hesitated the figure advanced toward him. The feeble light seeping in from the window began to show detail. He advanced until he stood within arm's reach.

"Wig!" John exclaimed, wonder and surprise in his voice.

"At the moment," the man said with a dry chuckle, "I happen to be known as Harper." He held up his hand with a look of mock alarm. "Don't try to prove to me that I don't exist, or that I'm really some character called Wig. You have Dr. Lamprey and his daughter going around

doubting everything."

"You're not Old Man Harper. I knew him."

"Turn on the light," Harper said.

John pulled his leg out of the window and crossed the room to the light switch. Then he walked slowly up to Harper, examining him with a puzzled frown.

"You're Wig," he said positively. "You look almost like Old Man Harper looked, but not enough like him to be taken for him. I think I know why, too," he added with a bitter smile.

"Why?" Harper asked.

"I know a little more about things now," John explained. "Old Man Harper was a money-grabbing fool. He had no friends or anyone that loved him. His mind never was in tune with the mass mind, so he had no chance of surviving after he died. His psyche was on a little island all its own."

"Would you believe I'm Harper if I tell you all I know of your childhood, and if Dr. Lamprey and his daughter assure you that they have known me for twenty years?"

"No," John said, shaking his head for emphasis. "I would not. I would still say you are Wig."

"If I'm Wig," Harper said, "why am I in this dream world, while none of the others are?"

"You trapped yourself," John said. He stared bleakly into the man's light blue eyes.

"All right, I'm Wig," Wig, or Harper, answered. "I admire your perseverance and clear thinking. But what are you going to do about it, now that you know?"

JOHN COLE took a walk around the room, frowning in thought. "I don't know," he said. "I'm beginning to see a little more than I did at first, but still not enough. I can see

now that *She* permitted the Individualists to survive as a sort of experiment—or maybe insurance—with you as their leader so they would always be under close observation and control.

"They were fed enough opposition in the way of attacks and casualties to keep their independent spirit alive and at high pitch. Probably for several generations that had been going on at a more or less stable level, with the numbers kept pretty well constant, births equalling deaths and casualties."

John stopped at the window and looked out across the city which was now slowly emerging into the light of early dawn. "And then I came along," he said. "The unpredictable factor out of the past. The possibility that had never been considered. You played along with me nicely, never dreaming that I might have it within my power to destroy *She*. Maybe you didn't think that was possible, until you suddenly saw the puppets of *She* break loose from the strings that controlled them, and begin to wander over the landscape out of control.

"So you plunged me into this world of illusion—this thought world. And you planned to ensnare me here beyond my depth where I couldn't escape."

He turned away from the window. Wig was sitting on the edge of the bed picking his teeth calmly with a broom straw, his eyes watching him with a twinkle of humor.

"My arguments don't seem to impress you very much," John said.

"On the contrary," Wig replied. "However, they aren't quite up to your usual standard. There are several defects in them."

"What, for instance?" John asked.

"First and most obvious defect," Wig replied, "if what you say were true, why is it that Rag didn't sense

She in me?"

"Possibly because you were there when *she* was born and she grew up accustomed to the feel of you as you always were," John said slowly.

"That hardly holds water," Wig said. "In your own case she said you positively weren't in contact. How did she know? No, Johnco. You're close. Very close. But there are other flaws in your arguments. Take, for example, the radio frequency wave that is supposed to kill telepathy. Such waves were in quite universal usage at the time Andrew Thorne created the first multi-brain mind. If a radio wave could prevent it now, it most certainly would have made it impossible in the first place, and Andrew Thorne would never have learned the remarkable potentialities of his discovery."

"If those waves are ultra-short, that doesn't hold," John objected. "But suppose that, instead of picking holes in my reasoning, you tell me the answers. And don't give me the old gag that I'm not capable of understanding. I understand *She* quite well now."

"All right, I will," Wig said, sticking the broom straw back in his pocket and getting up.

He walked away from the bed and turned to face it. Then he pointed at it with his finger. Immediately the bed was gone. In its place was an automobile.

"I gather that was supposed to impress me," John Cole said. "It doesn't. The city outside that window impresses me far more."

Wig, unperturbed, pointed again. The automobile became a piano.

"Sit down and play," Wig ordered.

"I don't know a thing about music," John objected. He glanced doubtfully at the piano, then sat down at it and touched a key with a finger. A note sounded, musical and throbbing with rich overtones.

John felt something reaching into his mind. Suddenly he knew he could play. A knowledge of music welled up in him. His fingers, almost of their own volition, began to weave over the keyboard. He listened and marvelled. He understood chord formation and sequence, melody, composition. He created his own music. He played the compositions of old masters.

Then suddenly his fingers faltered in confusion. He stared blankly at the keyboard, knowing no more of music than he had before he sat down. He looked up at Wig, puzzled.

And suddenly he knew beyond any shadow of doubt that it was not Wig standing there, nor was it old man Harper! With desperate swiftness he dived headlong through the open window.

WITH AN involuntary jerk John Cole opened his eyes. The sensation of falling vanished, and with it the awful sight of death in the form of a concrete pavement rushing up at him.

A sense of relief came over him as he realized that he was once again himself. But was he?

The doubt rose as his eyes came to rest on a girl seated half asleep in a chair near his bed. It was Joan Lamprey! And as he looked she woke up.

"Hello," she said, smiling. "I see you're with us at last."

John Cole stared at her without answering. She went to the door, opened it, and called to someone outside. "He's regained consciousness."

Seconds later Rag came running in and stood at the bed, her eyes filled with tears.

"Go tell the others, Joan," she said. Joan left the room.

"How long have I been unconscious, Rag?" John asked.

"Since yesterday noon," Rag an-

swered. "Almost a whole day. Do you remember? You fainted on the way back here from getting Joan."

"But Joan?" John asked. "I thought from the way that fellow that helped me walk acted, that when contact was destroyed they were completely lost."

"They get over it quickly," Rag said. "It's just a temporary confusion. All those within the wave area have gotten over their confusion now and are just as anxious as we are to blanket the whole Earth with radio waves and end the domination of *Sac*."

"Thank God," John said. "I thought we couldn't do it. I thought from the blankness of that fellow that he didn't have a mind of his own."

He reached up and felt of the turban-like bandage that covered his head.

"I suppose I've been out of my head," he said ruefully. "What a dream I had!"

"It wasn't a dream, exactly," Rag said. "I followed a lot of it. You had a fever. In some way the fever made it possible for contact to touch you in spite of the wave blanket. I think fevers make people more sensitive."

"Then I wouldn't have had to dive out the window to get back here," John mused. He told Rag what he had done.

"I don't think you could have helped doing it," Joan said thoughtfully. "Besides *Sac*, the superhuman entity that exists in the mass consciousness, there is a vast ocean of mind-stuff with no will, subject only to the laws of the mind-stuff itself. You were for the most part lost in it, and that world of 1950 you were in was created from the impulses in your own mind. It isn't delusion. It's very real. I can't explain it, but right now in that dream world you created your body lies crushed on the street. Dr. Lamprey, the Joan and the Kin

of that world, and Mr. Harper will go on living their lives, believing that you were insane and killed yourself."

IN THE DAYS that followed, he helped work out the many problems facing them in their battle against *Ske*. His suggestion on any problem usually turned out to be the one adopted.

A day came when the cavern community was preparing to move en masse to the nearest city, which had now been freed from the domination of *Ske*.

Johnco had taken a last walk with Rag. They found their footsteps leading them along the path to the small cave, where he had lain in suspended animation for five centuries.

As they drew near, they saw men working on a stone structure that was beginning to take the shape of a large building.

They were met by Wig. "What do you think of it?" Wig asked proudly. "It's going to be the research center to carry on your work in suspended animation, Johnco. This site was chosen so that the place you slept in could be preserved as a sort of shrine."

"Shrine?" Johnco echoed. "Why?"

"Why, he asks," Wig winked at Rag. "If it weren't for him, the human race would never have been able

to free itself from the monster it had unwittingly created by the discovery of Sepro Nine. Thanks to him, the race will once again be free, and the mental forces made possible by controlled use of telepathic union can be used safely. On top of that, he brings us the secret of suspended animation, and all its medical potentialities for good, that will be explored by scientists here in this building. And he asks why we want to preserve his sleep chamber."

Wig looked at Johnco with a twinkle in his eyes. "Do you ever regret having left your own times and travelled across the centuries?" he asked.

"Sometimes I get a little bewildered by everything going on, the complexity of things beyond my grasp with which the rest of you seem entirely at home. Even yet I haven't any idea of the nature of that vast entity called *Ske*. When Rag talks of creating a counter-entity to control *Ske* rather than carrying the present program out to its completion, I don't even try to understand." He glanced down at Rag, standing at his side. "But regret being here? I don't think I'll ever regret it. I have that rare thing that was an utter impossibility in 1949. A woman who understands me."

THE END

CONCRETE LINKS A CONTINENT

IT IS WITH considerable enthusiasm that plans are being revived to complete the famous Pan-American Highway projected so many years ago.

At Present it is possible to go far South beyond Mexico by modern concrete highways. It is also possible to come North even from Argentina to Central America, but it is that isthmus that remains the barrier. While a few hardy souls have penetrated the Central American jungles in super-equipped semi-military trucks and weapons carriers, no

road, in the ordinary sense of the word, exists. Nevertheless, with modern machine techniques, the construction of a road across the Central American jungle offers no insuperable obstacles.

Engineers and politicians, recognizing the value of such a road in unifying two continents, are plumping for it all the way. From every standpoint, the simple physical existence of a road would do more to point the way toward future years of peace and profit than any other effort.

—William Karsney



Here, blood and steel had an added meaning

ALL FLESH IS BRASS

By Milton Lesser



**When you put lead into these warriors
it might stop them and it might not.
And you always wondered what would fly
out of their heads — bolts or brains**

SOMEWHERE on the Northern Front, January 1. I think the Ivans are beginning to learn they have nothing on us with their famous Russian winter. Until recently they had never tried the good old United States variety, served North Dakota style. Now that they have, they'll learn.

I'm a fine one to talk.

I'm with the Regulars and I was born and bred a city boy. Place called

The Bronx, although now The Bronx is the northeastern lip of Manhattan Hell Hole, spilling radioactive rubble down into the H-Crater.

At least, that's what some of the Replaces tell me; I wouldn't know myself: I haven't been there in fourteen months.

But let's get back to this North Dakota Winter. It's cold. It's so cold that every other thought of coldness

you ever had just doesn't mean anything. It's the kind of nerve-chilling, bone-numbing cold that separates the men from the boys in a hurry. It comes in great, frigid gusts from the northland and it's too cold to stamp your feet or beat your chest. And whatever you do, the winter manual says, don't let the metal parts of your rifle come in contact with your bare skin. A guy I know tried it accidentally. He's been cleared to the hospital in Fargo, but they ought to keep the rifle as a warning. You don't have to come very close to see the strip of skin three inches by one inch stuck to it.

So, it's cold. But I'd better knock off this kind of thinking before I get morbid.

January 1, later. Last night was New Year's Eve. God knows where they got it from, but at about twenty-two hundred the medics came crawling and stumbling through the snow, leaving a pint of whisky in each fox hole.

A couple of minutes after I opened my pint and started drinking, I had a visitor.

A girl.

She wore the uniform of an Irregular—that is, she had on a helmet and a white armband which said U.S.A. The shoe-packs were strictly home-made, the denim trousers frozen stiff, the mackinaw which came almost to her knees covered with snow. She came tumbling into the fox-hole so fast that, had she been an Ivan, I'd have been dead.

"Mind?" she said, plunging her rifle-stock into the snow and bunkering down beside it.

I shook my head. "Two bodies will make this hole warmer than one." I gulped another mouthful of the whisky, discovered with no particular interest it was rye.

Her mittened hand closed over mine.

A small hand. "Please," she said.

I looked at her. She had a nice face which, however, would have failed entirely to inspire an artist. "Where you coming from?" I said, taking another drink.

Her hand stayed put. "Please." She snuffled, and wiped her running nose on her sleeve. "Up front a ways. Patrol action."

"They taking many girls?"

"As many as will join. I can shoot this gun; I guess that's all they're interested in since the Ivans started pouring over the Canadian border. Please."

I cursed softly and handed her the bottle. She hardly paused to breathe, downing the half-pint which remained in four gulping swallows. She blinked, she wiped her lips, coughed, tossed the empty pint carelessly up over her shoulder and into the frozen night.

"Thanks."

"Damn it! Why'd you have to show up?"

"It makes you warm. Doesn't it?"

"Yeah. Yeah, I guess. How long you been fighting?"

"Three days."

"No training?"

"No training. My husband—"

"You married?" She looked so young.

"I was. My husband got back from the English Evacuation with one arm shot off. Three days ago the Ivans found us and killed him. I fled south and joined up. Smoke?"

When I nodded eagerly, she got two cigarettes out of the breast pocket of her mackinaw, lighted them, passed one to me.

We smoked and talked till my watch said twelve o'clock.

"Happy New Year," she said.

"Happy New Year."

Then we got some sleep. A year ago I never would have believed it. There we were, bundled up like a

couple of Eskimos but still trying to keep warm. We lay huddled together, breast to breast, and I could feel her heart thumping. We spent that night as close as a couple of logs in an ice jam—and just as dispassionately.

She was up with the first gray streaks of dawn. She clambered up the side of the fox-hole three times and slipped back down the slippery snow each time.

"Here," I said. She started up again and I got both my hands under her fanny and heaved. She went up and over and plowed head-first into the snow. She turned around, looked down at me, grinned. She waved and was on her way. Probably I'll never see her again. It was an hour till I remembered I'd forgotten to ask her name.

JANUARY 5. Colder still, but no fresh snow. The Ivans laid down a brief artillery barrage, but it was enough to splash purple and orange flame all over the tundra. Rations giving out. I'll have to get some company soon or starve to death.

JANUARY 7. Great news! I'm being shipped to the rear for two days of rest and warmth. Chaplain came around and said so, and I felt like blessing him! He tells me I'll have a bed back there, in a house with four walls, although probably the ceiling's been blown off. I'll settle for the bed alone as long as it has a blanket. Well, I'll find out pretty soon.

JANUARY 8. This is the life. Hot soup this morning, with savory hunks of meat in it. Served in bed, if you please, by a gal with looks. And Chaplain was pessimistic: there's a ceiling here!

But the guy in the bed next to me dampened it all with a sordid story. I can't make up my mind if it's true or not.

"Are you a Replace?" he said. He was a short, gnarled man, balding,

with deep-set eyes, red-rimmed and unhealthy-looking. Replace? That's short for Replacement.

I told him no, I wasn't.

"Good. Good. But watch them Replaces. Oh yes, keep your eye on them, you mark my words."

"What for? You mean because they're green?"

"No. Not on accounta that. Because some of them ain't human."

I told him I thought he was joking.

"I'm not joshing, young feller. Name's Ben. You think old Ben would josh about a thing like that? I read the Book and I'm a God-fearing man and don't you forget it. But some of the Replaces, they ain't human."

I smiled. "Now, if you said, the Ivans weren't human, I'd agree with you. They're like machines." I still thought he was joking. But that stuff about the Ivans isn't so funny. The way I understand it, top brass suspects most of them are cokey. "But shoot," I went on. "They probably eat hashish instead of C-rations and heroin instead of K."

"I doubt it," the small, gnarled man named Ben said very seriously. "They probably came up with the Invention sooner than we did, that's all." He said it like that. Invention. Like it should have a capital letter.

"The Invention?" I asked Ben. "What invention?"

"A new kind of Replace. Awful." Ben grunted and sat back complacently, as if because he'd told me that much now it wasn't his worry any longer.

I leaned over and prodded his shoulder while the nurse brought me another cup of soup. "What kind of Replace?"

Ben shrugged. "Not sure. Mechanical, though, instead of human."

"You mean robots?"

"Didn't say that."

"Damn it, say what you mean then!"

"Not sure I know. But there's a rumor—troube is, son, you've been at the front too long. You get to miss what's going on. Like the Good Book says—"

"Never mind what the Good Book says. *Fow* said something about robots."

"Did not. Mechanical Replaces, not robots. There's a world of difference, son. All the medical outfits are staffed with a lot of cybernetics men, too. You know, thinking-machine stuff. Man comes in from the front. Dying. If they get him quick they have ways to duplicate his body and reproduce the complicated electrical impulses which make up his mind. He thinks he's a man. He don't know no better. But he's a machine. A better fighting man, sure. But a machine. If the Ivans have them too, it gives you a kind of creepy feeling. Fighting machines which think they're men." Ben shuddered, lapsed into troubled silence.

JANUARY 10. Well, I'm on my way back to the front. Funny guy, Ben. He didn't say another word till right before I left. I tried to get a conversation going a couple of times, but he merely grunted and averted his head. Before I left he said goodbye, and that was all. January 11. I'd better run some of these entries together like this because I'm running low on paper. After two days of warmth, the front is colder than ever. I wonder, do pleasure and pain always buck each other that way? January 12. Snowed all day and all night. A couple of Ivan's jets flew over, but apparently just on reconnaissance. They came in real low because the snow brought visibility down below the level of the tree tops. I think one of the jets got into trouble with the AA boys a couple

le of miles from here, but it's hard to tell.

JANUARY 14. Still snowing.

JANUARY 16. Talk about your miracles. Miss New Year's Eve came back today, quite by accident. Her name is Beth and she's been delivering messages until they shoved her back into the infantry. Mine was the first fox-hole she happened to find. This time *she* had the whisky and I did the grubbing, but Beth didn't mind at all. If I knew Beth could keep me supplied with whisky like that, I'd ask her to marry me.

JANUARY 17. Beth tells me she's scared. At first I thought it was what the aid-man said when he brought up some chow. Rumor of a big Ivan push coming, despite the snow and the cold. Kicking off tomorrow at dawn unless G2 got some cockeyed information. But Beth says that isn't what's worrying her.

"Dames, I thought. But then she made like what's-his-name—like Ben.

"It's the Replaces," said Beth. "More and more of them with that stony-eyed look, almost like they weren't alive, Charlie." That's me, Charlie.

"I know," I said, and laughed. "They're machines. Carbon copies of men who got theirs on the front and died. Good copies, but machines. Terrible stuff."

"Why, yes! That's just what I had in mind, Charlie."

"You're nuts," I told her. "I heard the same thing from a nut in a rear area."

Beth insisted, "You'll hear it every place you go. A thing like that gets around."

"I haven't heard anything."

"You have too. From me and—the rear area nut."

"It's smoke from the embers of a dung fire," I said, borrowing an expression from the Ivans which had got

popular with our boys. "I don't believe a word of it," I snickered. "Next thing you'll be telling me, you're one of the robots."

Beth shook her head. "Of course I'm not. But not robots, Charlie. One of the worst part of it is, the Replaces don't even know. They think they're men. Only they're not afraid like men, and they don't get so cold, either. The sober rumors say they last about a year or two and then break down."

"But I thought of what you said. Right after I began to put two and two together about the Replaces. I had to make sure. I—I experimented on myself. I went without food and I got hungry. I cut my hand with a knife and I bled."

"That's funny," I said. "You really believed it."

Beth shrugged in the cold, leaned toward me, took my hand. By the time I realized something funny was going on, it was too late. Beth had my mitten between her teeth; and she bit. I yelped and pulled away, but the experiment had already been conducted to her satisfaction. Blood welled up, sluggishly, stained my mitten a dull red and froze an almost chocolate-brown color a few moments later.

"You're human," said Beth.

I didn't answer. I felt good and sore, sore enough to cut my nose to spite my face. I didn't bundle with Beth that night. She stayed put on her side of the fox-hole; I curled up, shivering with the cold, on mine. I slept poorly, but so did Beth. Damn her, though—my hand throbbed all night.

JANUARY 18. It's late afternoon now, and G2 hit it right on the head. The sky all around us is pulsing with that purple-orange glow which spells out, clear as anything, rocket barrage. And I got the chance to shoot at some Ivans this morning—

that is, before I had to high-tail it back a mile with Beth. The line is stabilized there, more or less, but the Ivans are still mounting their power for a thrust at our center—about three miles west of here. The artillery is pounding and thudding off in that direction, and kicking up great splashes of snow. I got me two Ivans, I think, and Beth claims one. But Regulars and Irregulars dotted the snow all around us as we ran, and Beth cried a little. More later.

JANUARY 18, later: God! I still can't believe it. If a girl were brought up in a cloister and then introduced to the facts of life by a brutal sex-fiend, she might feel something like this. Trouble was, I didn't believe. I didn't want to believe what everyone told me. I believe now. I have to. I saw for myself.

It happened like this. Beth and I were hacking away at the frozen ground under the snow with our bayonets, for even a shallow hole would be some protection against the wind and the cold. About half an hour after we got started, someone began crawling over to us. Beth saw him first, dragging himself across the snow and yelling. We both ran to him, but I got there before Beth did.

There was a hole where his chest should have been. A gaping hole with plenty of snow in it. He should have been dead, but he dragged himself along, yelling. The hole went all the way through to his back and the snow came out there. A nice clean hole with white snow going in the bottom and coming out the top, still white.

Beth saw him and screamed. He clutched at his chest and screamed back. The hole was smooth and even, but that could happen if a high-velocity rocket passed through you cleanly. Of course, you wouldn't live to tell about it.

This man did.

Something gleamed against the snow as he tried to raise himself on his haunches. Metallic. A coil of thick wire, but twisted and bent. Protruding from the hole in his chest. He looked at me and said, "I swear I didn't know—"

I carry a pistol which I got from a dead Ivan officer. I took it out and felt it slap back savagely against my palm as I shot the wounded man's head off. Literally. In pieces. Metal pieces. I was sick after that, and so was Beth.

I think I'll make love to Beth tonight. It will help some. Probably, though, it won't help enough.

JANUARY 19. *Boom! Crash! Blast!* I can hardly hear myself think. Trust those Ivans to out-guess the guessers and come up with something foxy. They raked the center of our line with zero'd-in artillery so that we concentrated our reserve behind it. Then they cut away quickly and drove their salient three miles away—*here!* They tore through our line like it was paper and they cut around and half way behind our reserve before it could deploy itself properly.

I've got to put down this pencil for my rifle, says Beth. More later.

APRIL 14. That's right, April 14. Beth is dead. It was January 19 when it happened. During the big Ivan push. She got it quick and clean. I don't think she even knew what hit her. I'll miss her.

I got mine the same day, with an old-fashioned recoil rifle, of all things. Somehow, a couple of aid-men found me, carried me to the field hospital. The way I understand it they did some emergency work there, then shipped me to Base Hospital in Fargo. Today's my first day back at the front. They really rush things, those medicos.

Incredible as it seems, we somehow managed to stop Ivan in his tracks. Skillful leadership? Plucky foot soldiers? There are all sorts of answers, but I've got one of my own. Ben knew what was going on, and Beth. The Replaces. More and more of them every day. Metal men. Duplicates of men who died in battle, every tiny aspect of their brains and physical features copied to the last detail. Metal men who can go on and on because they don't get tired like mere humans. Evidently we can make more of them than the Ivans can. So now we're winning.

It's not a secret any more. Too many of the metal men have been blasted by artillery at the front. Too many have been strewn over an acre or so of ground, their tiny, intricate metal parts gleaming more brightly than the snow. The Replaces will never be forgotten. They're going to win this war for us, and then they'll die. All of them. In a year or two, for they're not constructed to last longer than that. A couple million metal men—looking like humans but with different drives and different joys—would be quite a strain on peace-time social structure.

APRIL 15. The snow has begun to thaw in the northern hills. The winds are still icy, but they haven't bothered me. Been thinking of Beth again.

APRIL 26. We've cleared Ivan out of continental U.S.A.! That calls for a celebration, especially since the men in New Pentagon declare they'll be out of the Western Hemisphere inside of six months. Wouldn't be too surprised if the counter-invasion of Fortress Europe got under way before Christmas.

MAY 14. Peculiar change in the Replaces we're getting here in central Canada. The metal ones are proud of it. They let you know right off, saying they're better than flesh any day.

Fights more and more frequent, with the Replaces coming off best, naturally. I don't like it.

MAY 15. I don't like it at all. I saw my first metal versus human battle today, with a couple of hundred soldiers on each side. At first I thought it was strictly behind U.S. lines—but about an hour after the fracas started a fewscore metal men breezed in from the other side of the front. Metal Ivans fighting with metal G.I. Joe's against flesh-and-blood G.I.'s. Artillery finally got the Replaces, but not before they'd killed about seventy-five men.

MAY 28. At an Eastern P.O.E. Looks like I was wrong. The Invasion of Fortress Europe—words on everyone's lips—will come a lot sooner than expected. I'm shipping out tomorrow or the next day. Destination? Probably Iceland. The British Isles will be part of the free world again by September. Unless the Replaces become a serious menace. Right now I don't know what to think.

MAY 31. At Sea in the North Atlantic. The Replaces are everywhere. Two-thirds of the troops aboard ship openly admit their identity.

JUNE 1. We're turning back in mid-voyage. I don't understand. The Replaces are jubilant, though.

JUNE 4. In the Catskill Mountains. The War is over! Nothing to applaud about, however. For there's a new war and one which, from all indications, will be worse. Metal-man versus flesh—to the death. The Replaces bombed New Pentagon and the hush-hush laboratory nearby; and now they don't have to worry about death in a year or two. At least, that's what they say. It has something to do with a storehouse of electrical records in the lab. The bombing destroyed it completely—and with it, flesh-man's

ability to kill metal-man at will.

New York was in Replace hands, but it was comparatively easy to escape to these hills a hundred miles northwest of the city. Everything's so disorganized. One thing is clear: the Replaces are fashioning recruits. *Something* has to account for the fact that one man out of three seems to be metal. According to one newspaper I saw in the city—the last paper to be printed before the Replaces took over—almost every army man who was severely wounded some time during the past sixteen months was turned into a Replace, most of them with no knowledge of the transformation at all.

And now the Replaces roam the countryside at night, capturing recruits. You can't create artificial men at will. You've got to copy a flesh-man first. And it's said the Replaces are choosy, too. They'd like to kill off a good percentage of the population, save the remainder for slave-labor, and live the metal life of Riley. They might do just that. Pretty grim....

JUNE 6. HOW dumb can I get? It was staring me in the face all along. I won't say till I'm sure, though. Objective note on the doings of the day: the Replaces are winning everywhere. Mankind, the original mankind, is doomed.

JUNE 10. To hell with waiting any longer. I'm going down from the hills into the large town of Liberty this afternoon. I should have realized it long before this. I've been fighting on the wrong side! A new and glorious future awaits *homo superior*, the man of metal. *I am a Replace.*

JUNE 11. Liberty, New York, is a nice town. The Replaces accepted me, their brother, with open arms. More about this later.

JUNE 11. Later. The last few bu-

mans are being dragged from the hills around Liberty for execution. If the New Order is to get off to a flying start, there must be some bloodshed. But an amusing thing happened a few minutes ago. Interrogated by an Intelligence Officer, I was really given the third degree:

Q. Do you know for a fact that you are a Replace?

A. Of course I'm a Replace. (Details about my front-line injury and what followed.)

Q. That strikes you as proof enough?

A. Naturally.

Q. There are simple tests. Will you submit to them?

A. I don't have much choice—but I don't have anything to worry about, either.

So—that's the status. They've

arranged for me to be tested tomorrow.

JUNE 12. *Homo sapiens* has surrendered unconditionally! Our poor half-brother had no choice, really. We sprang up on all sides of him. We abducted a wife, killed her, copied her. An hour later, she returned, armed, to slay her unsuspecting husband. Our Replace husbands brought their wives in bodily for destruction and copying, provided they merited it. The new Era dawns.... It says precisely that on a proclamation issued this morning. But more about it later. Right now, I must take my test.

LATER. Last entry. The test was simple.

Someone held me. Someone else hit me. Repeatedly. In the nose. I learned my lesson: never jump to conclusions.

I bled....

THE END

FREEZE IT...

By Salem Lane

HOT!

SOME YEARS ago we reported on the marvellous device for heating dwellings called a heat pump. This machine was essentially little more than a large electric refrigerator (driven by a five horsepower motor) operating in reverse; that is, the cooling coils were buried deep in the ground, from which they sucked up heat and transferred it to heating coils in the homes. This fantastically ingenious mechanism has been tried in hundreds of homes and factories and found to work perfectly. The Earth below the frost line is an inexhaustible reservoir of heat energy and can provide enough heat for all the homes in the country indefinitely. In light of these startling conclusions, why do we hear so little of the miraculous heat pump?

The answer is quite simple! Modern industry and all living are inextricably linked into one mesh. We have a balance that upsets easily. Too much of one thing means too little of another. In the speci-

fic case of the heat pump, the electric utilities, in spite of gigantic building programs, simply would not be able to handle the tremendous load a widespread use of the heat pump would entail. In five or ten years perhaps, but not right now, what with defense taking so much energy. Electric power is limited. If heat pumps were to catch on like gas and oil burners and spread as rapidly—or more rapidly—our electric power supply would be swamped. Therefore, the interests in heat pumps are busy perfecting them so that when the green light is given, this mode of home heating can be used widely and cheaply.

The heat pump will be, undoubtedly, one of the prime heating methods of the not-distant future. Inventors are working with sunlight traps and photo-electric devices for using the Sun's energy, but these are still experimental. Heat from the bosom of old Mother Earth will be more practical—and limitless—very soon!



THE BOONDOGGLING that men do, lives after them! No better example of boondoggling can be found than the famous (or infamous) project "Habbakuk". If crack-pot schemes seem to be short-lived, it is merely because they lack promotional forces. Project Habbakuk, which was as weird an idea as can be conceived, did not suffer from this fault, however, and into its conception and execution went an enormous amount of time and money. It was such a colossal failure, a moribund fantasy to begin with, that for a long time, British engineers described useless inventions as bits of "micro-Habbakuk."

Project Habbakuk was a wartime scheme, thought of some time before the invasion of Europe, in which a gigantic aircraft carrier was to be constructed of ice! It was to weigh five or ten million tons, to be externally insulated, and to be equipped with a refrigerating plant to preserve its ice mass, using the power of an electric refrigerating plant more powerful than London's huge Battersea Station. It had been found experimentally that paper pulp such as is used in papers and maga-

zines increases the strength of ice by a factor of ten or twenty. Vast amounts of this were to be incorporated in the icy aircraft carrier which was to serve the Allied invading forces.

Had the scheme remained purely in someone's mind, it would have been bad enough, but a great deal of thought and time and money and man-hours were devoted to investigating it. Finally, common-sense triumphed and project Habbakuk died its deserved death.

Nations at war cannot afford to discard any feasible military possibilities and the result is that they often lean over backward weighing designs for weapons and projects which are patently absurd. Science has so effectively demonstrated that almost anything is possible that idiotic ideas are often enabled to creep in by the side door. As ridiculous as Project Habbakuk was, the Germans were prone (assisted by their mystic leaders) to even more insane idiocies. The classic example, on which they spent a fortune in time and effort and money, was their compressed air gun which was to blow Allied air-

planes out of the sky with puffs of compressed air! As with Habbakuk, there was just enough plausibility in the basic principle to lead them on—foolishly.

Technology and science have so firmly established their almost omnipotent power in turning utter fantasy into real, cold fact, that frequently pseudo-scientific ideas can get more than a casual hearing. This represents guilt on the part of the boards empowered with examining ideas, for in the backs of their minds they recall so many military inventions which were rejected by previous groups and which later turned out to be highly effective; for example, the tank, the airplane, the machine gun, the rocket and a host of other things.

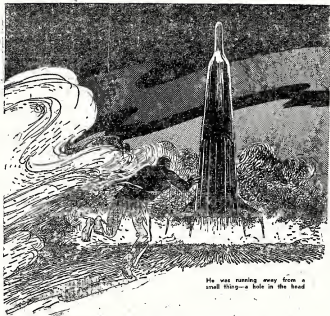
Habbakuk, the Hebrew prophet after whom the project mentioned above was named, must have spun rapidly in his grave when his name was attached to the ice-carrier scheme. He's probably waiting for someone else to attach it to the latest idea—a slingshot for downing guided missiles!



THE YELLOW WIND

By
DEAN EVANS





He was running away from a small thing—a hole in the head

It began with a wind you could lean on.
 It finished with a blonde you'd love to
 lean on. And between the two — Wow!

THERE WAS a yellow wind roaring in off the Martian deserts that night. It was the kind of wind that makes you bare your teeth because your skin is too aust to fit right any more. It was the kind of wind that, when drunks feel it, they think that last quick one must have been rocket fuel. When the yellow winds blow like that—and they do

twice a year—timid little men jerk straight up in bed and eye their slumbering mates and suddenly realize how easy it is to get to be a widower. Just two tight hands around a soft white throat.

Business isn't so good when it blows like that. Right now the barman in the *White Moon* was showing how good business wasn't by listening sourly to

the late good-night music on the TV screen down at the end of the bar. One hand he used to hold himself upright, and the other to hold a few stiff ounces of his own bar poison.

"Goddam wind," he muttered to nobody in particular.

Just in case he included me, I nodded, shrugged, nodded again. He noticed the movement. "And three more nights of it after tonight," I said.

"Yeah." Then he leaned over the bar, got his right thumb hidden by the bulk of his stomach. He wiggled his thumb down at the other end of the bar, wiggled it and cocked an eyebrow at the same time.

He meant the dark-haired girl down there, the one who was drinking alone and not knowing anybody else in the galaxy was alive. He said in a husky whisper: "Don't seem to bother her none. Lookit the empties in front of her."

So that made me shrug once more. "A good barman picks 'em up, washes 'em, wipes 'em, stacks 'em up," I said.

"Hub?" His lip curled. "Look, doc, I ain't the kind disturbs a payin' customer. Lookit what else she's got in front of her besides empties."

I idly turned my head and looked, as one will. She was tall for a girl. About five nine or ten. Willowy in spots, yet giving the promise of amplexity if amplexity ever came back in style. Dark hair in that straight-out-from-the-sides dressing somebody resurrected from museum pictures of the very very ancient Egyptians back on Earth. A small nose; mouth a little too large; eyes that would make you want to cry if you'd had more than five of the bar specials.

And a roll of bills big enough to fill in the grand canal.

"Must be a couple thousand bucks there," the barman whispered. Then he leered. "Wonder how she got it?"

"Go scrub out your brain pan with impervium dust," I growled. Guys like him give me a pain.

The three of us—the barman, the girl, and I—had the place all to ourselves at the moment. Outside, the big yellow wind howled. Sand blew, covering huts, covering everything. But here inside it wasn't so bad. Right now a dreamy melody was coming from the TV. It wasn't anything special; any slow tune that doesn't rock the walls can be dreamy in a saloon on Mars on a night when the yellow wind blows.

JUST THEN we had a little brisk change in the way things were going. The door banged open and in barged a couple hundred Earth pounds of somebody who was moving as though he knew all the answers and had a big line of customers waiting. He made it over to the bar in two strides, looked neither to the right nor to the left. He planted himself in the middle of the bar, banged a fat fist on the bartop, curled his lips in a sneer that could have been the word "rye".

The barman poured. The barman said like a barman does on a night like this: "A night like this. Lousy, ain't it?"

The big man didn't answer. He got his fist around the shot glass and the shot glass evaporated. He put his coiled fist to his thick lips. He put his fist down again, opened it, and there was the shot glass once more.

The barman filled it, tried again: "Lousy, ain't it? A night like this."

The big man went through it all over again. Then he cleared his throat, said "Yeah?" in a voice that shook the screen on the TV. Then he looked up at the barman. He said "Yeah?" again. Then he took his eyes off the barman and looked down my way. His

eyes opened as if the sight of me surprised him. He studied me. I didn't know whether he was liking me or not and I didn't know whether that was important or not.

He finally looked away. He looked down at his glass. The barman looked it. He made it evaporate for the third time. Something like an unanswered question was in his eyes. And then it occurred to him to turn his head to the left, down where the girl was at the end of the bar.

His head jerked. He pushed the glass away from him. He moved toward her. The girl was as mute and as frozen as February sixteen. His hand came up on the bartop once more and slid forward toward the big roll of bills. His hand made a fist. The big roll of bills wasn't there any longer.

The barman said, "Hey!"

"I didn't say anything. I get like that when I'm scared stiff.

The big man took his fist away again, put the fist in his pocket. He started to back off from the bar toward the door.

The barman said "Hey!" again and started to take himself a nimble leap over the bartop after the big guy.

WHICH WAS a mistake. Even I could see that. The big man's fist came out of his pocket and it didn't have the big roll of bills in it now. Instead, it had a midget-sized heat pack—a gun that makes your intestines so many fried strips of bacon. The big man's thumb came down on the tiny button on the pack, and that was all.

He transferred it to me, of course, but I wasn't doing anything beyond sneaking a catch-breath now and then between deaths. He grinned at me, nodded his head, kept on backing. The door up front swung shut behind him.

Like the man who always thinks of the wise remarks he should have said the night before the day after, I came to with a rush. I made the door. I took two steps outside and looked left. The sand-laden wind tore at my skin. I turned and looked to the right.

The big man was gone. He could have boled up between buildings. Or right now he could be going around those buildings so he could sneak up from behind and let me have it. Or he could have simply evaporated like those shots of rye he was so fond of. But that seemed a little unlikely, considering his size.

Just to prove it to myself, I went around the side of the saloon and tried to peer down the dark alleyway. It was like looking into a funnel with somebody blowing in the other end. I gave it up and went back to the saloon.

The barman was still there—he wouldn't be going anywhere again except to the one place. But the girl was gone, and the only thing she left for memories was a pile of empty glasses.

I leaned down over the dead man. His hair had changed color in that last agonizing instant.

SECURITY INTELLIGENCE sent two of them. One was short, spare, clean-looking, with dark skin that wouldn't be too much affected by the sands and the wind. The other was tall, bad bad teeth, and looked like he got his skin protection from bottles, but not the cosmetic kind.

The tall one said to me: "I'm Wallen. That's Spino, the Greek. Don't mind him, just do your talking to me."

He herded me down to the end of the bar. His partner, the dark man, got down on one knee and looked into the face of the dead barman on the floor.

"All right," Wallen said. "Let's have it. Straight. Quick. Any fancy words needed we'll get the Greek to fill them in on the report. He likes fancy words."

I told what had happened. First to last. Wallen listened and when I was through he said: "Little detail you forgot. Just what was you doing here yourself? Why ain't you home in bed?"

I gawked: "On a night like this? When I just got out of the mines and tomorrow's my day off? I should be home in bed?"

Wallen closed his eyes in tight slits at that. He looked at me out of them, looked at me for a long time. Then he turned his head, jerked it at the dark man Spino, still down on one knee.

"Big TV star here, Greek," he sneered. "Out on a vacation, from Terra. Tryin' out the fishin' in the canal."

Spino looked up. His eyes were things that could talk by themselves, but at the moment I couldn't understand the language they were using.

Wallen came back to me, said: "That's all there was. Just like that. Nothing special happened, it's just plain stickup and the barslob got too helpful. That it?"

I nodded. "Except for one small thing," I said. "It probably doesn't matter, but it sticks in my mind."

"Hey!" yelled Wallen. "How you like that, Greek? This big TV star's noticin' small details now. Don't like it plain stickup and murder. Wants to embroider it a little."

The dark man Spino put his quiet eyes on me. He didn't say anything. He was waiting, listening for my answer. I said, "Nothing much. Only at the time, it seemed funny. When the big guy looked away from me and looked down at the girl, he nodded

his head. He didn't look at the roll of bills especially. Or if he did I missed it, but I don't think so. And when he moved down toward the girl, he didn't take his eyes off her. His hand just went out and fetched in the money and that was all. Then he backed away."

"Sure," Wallen sneered. "Now the guy ain't just a stickup artist and a murderer. To boot he's a talented slob can mind-read rolls of bills on a bar-top, he ain't seen yet."

SPINO didn't sneer. His dark, quiet eyes blinked slowly once or twice. He said in a soft, thinking voice: "You mean, like he knew in advance the bills were—or would be—there waiting for him? Like this was a date of some sort he was keeping."

I said yes, for that was precisely what I did mean.

Wallen sneered again. "A Greek and a goddam genius," he snorted. He didn't like it. He didn't like anything about it. And just to let me see he didn't like it in case I hadn't already noticed, he brought around his right hand palm open and slapped me hard twice across the face with it.

"Sam!" said Spino warningly.

"Aw, shut up, you goddam sissy! Button up your lace panties yet."

Spino didn't answer. His lips pulled in tight, hard, and danger lights you could have seen with your back turned blazed from his eyes. But Wallen didn't give a damn. And outside, the sand sprayed hot and sharp against walls, and the big yellow wind chased after it, howling.

We went down to Security Intelligence Headquarters and I told it all over again and put my signature and address on it. And then before they let me go I had to tell it all over again just once more. The newscasters have to make a living too, and the Security

Intelligence beat on Mars isn't any different from how it is on Earth.

On my way home I stopped once at a corner public screen and looked at it as it came over all filmed and done up in a can that would be later sent across space on a liner. The screen was sheltered a little from the yellow wind—and besides it isn't every day that a man in my position gets on the simulcasts, even if it is over somebody's dead body.

To me, I looked about like I look in a mirror. I sounded, telling it, like talking in a tunnel. Wallen looked grim and hard and his stained teeth didn't show too much. The peak of his uniform cap was at just the right angle, and it would hit the folks back home the way he wanted it to. The small dark man Spino somehow was pushed into the background like all small, quiet men usually are.

I went on home.

My place isn't much, it's a hut. It's a hut out on the desert fringe of town, and the only claim to fame it has is that it's within hearing distance of the great port where the liners come hissing on overworked repulsers down into the cradles after the long long trek across space.

SHE WAS waiting for me. I couldn't see her eyes, but you don't mistake a tall figure like hers even in the dark, even with the wind and the sand blowing. She was huddled in the lee of the hut and her voice was like a cry in the night. I went over to her. I started to say something.

And she put a heat pack on my stomach, and my navel started to crawl away in the dark.

"I have to talk to you. Take me inside."

You don't argue with a heat pack. I took her inside. I could see her eyes now, and if I thought about it at all,

I thought how wrong I'd been back there in the saloon. You wouldn't need five bar specials to cry over them, you wouldn't need even one given the right moment.

I said: "This is about what a man would expect. He works like a slave down in the mines all day, and when the shift is done he goes out for an innocent quick half-dozen and he witnesses a robbery and a murder and when he gets home he finds a gun waiting for him."

She didn't think it was funny. She backed me over to my cot. I sat down on it. Then she found a chair with the calves of her legs, slowly lowered herself in it. She said then: "I had to make sure of something. It's a dark night and the wind is blowing, and I didn't know, I had to make sure." Her voice was good, without scratches in it. It matched her eyes pretty well.

I said: "Lady, whether you know it or not, the Intelligence boys are just now chewing their fingernails down to stubs wondering who you are, what you were doing in that saloon, what you had that big wad of bills out there on the bar for, and why the big heavysset man knew just why they'd be there waiting for him."

She looked at me from under eyelashes she probably had to braid each night, they were that long. "I know. I knew they'd question you. I hung around a corner waiting for it to come over a screen and it did. That's how I knew who you were, where you lived."

"They'd still like to know," I said. "Even after that."

Her eyes went wide. "They can't take him. He's got to get away. He's got to put the money where it'll count, like he said."

I BLINKED at her. "Lady, I'm a patient guy, but it's late just now

and I've put in a hard day's work. They can't take who? And why does he have to get away and why does he have to put the money where it'll count like he said?" My voice sounded like a tape somebody is jerking backwards through the slots.

"His name is Anderson."

That told me a lot. I waited. The yellow wind outside worked on the thin hut walls like a rat sucking life out of an egg.

I said at last: "Lady, put down that heat pack. It's warm enough in here as it is."

She looked at it with a little surprise showing in her eyes. She nodded. Then she shocked me. She got up, came over to me, put it in my left hand. She said: "I didn't mean anything by it. I just had to get to talk to you. It's my brother. He's in trouble—and Anderson said if I got ten thousand to him he could put it in places where it would help, and my brother could get out of it."

I gawked.

Her words came in a rush then and a wild, terrified light came in her eyes. "He's in a jam, mister! They claim he hijacked a payroll liner from Earth. Two million three hundred and forty-five thousand dollars! And hid it out on Venus somewhere, but, it isn't true, it isn't true! He wouldn't do that, Danny wouldn't do it. He wouldn't, he wouldn't!"

I still gawked. "Danny?"

"Danny Bailey. My brother."

And then I got it. I began to remember. This Bailey and one other had stashed out on the last payroll ship. Three quarters of the way out they'd put heat packs on the skeleton crew and forced it out of its plot. They landed on Venus—and that was that. There'd been a little death too, but not before the radio man had got in

some scared whispers that were heard on four or five planets.

I shook my head. "Where do you get faith like that in times like these?" I marveled.

"It isn't! I mean Danny didn't do it; don't you see, mister? Danny isn't a killer. He might have been on that ship like they say, but there was a good reason for it, he couldn't have been mixed up in anything like that!"

I shook my head. "So we got to buy him out of it. So this big man—this Anderson—shoots an innocent barman down for nothing at all except that he didn't like to see a lonesome girl get heisted in his place. But killing him doesn't matter a damn, barman come a dime a dozen. All that matters is protecting another, killer, a brother named Danny Bailey."

It shook her. Her fist went to her large mouth and the eyes that were already doing things to me did even more; and a sob like the wailing of all humanity over all the inhumanities to humanity since the heavens first appeared, came out of her and shook her body down to the soles on her shoes.

I GOT UP and put my arm around her and gave her my handkerchief and let her sob it out on my shoulder. And outside the wind blew.

"He'll get away," I said. "This Anderson. I don't know how he fits, and if anything ever looked more like a cheap con game I've never seen it in all my life. But he'll get away, the Intelligence men didn't make him from my description."

I let her sob it out on me. What the hell, tomorrow was my day off, I didn't have to get up anyhow.

"I couldn't tell him," she finally whispered. "There wasn't time and it happened so fast. I wanted to tell

him if he saw Danny to warn him not to go home. If they found out and came to get him there, it would kill mother. She doesn't know yet. She..."

I took a breath. "Danny's *here*? On Mars, where all Security Intelligence hang their hats?"

She nodded into my shoulder.

I tried to think something out but it wouldn't come. I had to ask it. I said: "Where does this Anderson fit? How did you contact him?"

"He came to me. He's the one told me Danny was here, that he thought he could buy him out of the trouble—not that Danny's guilty!" Her eyes looked suddenly up into mine, stared a little, frantically as though the thought had just come to her that by some ridiculous chance I might not be believing in his innocence.

I smiled—it was the best I could do for her at the moment. I patted her softly. She was nice, and she was a girl in the throes of worry, and her head was on my shoulder and there aren't many girls like her these days. So I patted her.

"Could—would you do it for me?"

"Huh?"

"Would you go to Anderson for me and tell him to tell Danny? About mother, I mean?"

I jerked.

"I've got his address! I'll give it to you. I'd go myself only—"

"Lady!" I squawked. "Let's look at it! Don't you realize I'm a witness to a murder, and it's my testimony that can put the big guy back with his ancestors? And that he'd like nothing better than to have a heat pack in the middle of my spine right this instant?"

I stared at her like you'd stare at something in your sandwich that isn't exactly the kind of meat the chef had had in mind. I stared at her for a long long time. But she was a woman, and

her big eyes just looked into mine and her warm body was tight against me and telling me things that were all the pleasant promises any woman can ever make to a man on this planet or any other.

And I finally took my eyes off her and looked down at her little heat pack that was still in my left hand. I sighed over it. I began to nod like man has been nodding to woman for quite a few millenniums now.

She put my handkerchief down. Her two arms came up and around my neck. "Thank you," she whispered.

"Sure," I said. "Or in words of the ancient sage, 'man with hole in head hath not long to wait before filling hole in ground'."

THE ADDRESS she gave me wasn't rightly an address at all. It was a hut, but it was down in the fourth quarter of town in a section called New Pittsburg. It had an anti-radiation wall around three sides of it and it looked as though it hadn't been dug out of sand storms for the last few seasons.

A hundred yards away stood one of the huge processing plants looming dark in the night. The plant was operating—the third shift—and they had the big stamping machines going, and underfoot the bedrock thumped with a thick uneven beat like spasmodic fetal kicking in a very quiet room.

The wind tore at me as I went around to the rear of the hut. There was a door and it was clear of the swirling sands which proved somebody had been here not too long before.

I could have knocked, of course. I could also have just stood there and let my hair grow, both noises being about the same against the booming of the yellow wind. Besides, it wasn't

locked, which on Mars is like putting out the welcome mat.

Somebody had lived here all right. Against one wall were a couple of packing cases that kidded themselves about being a chest of drawers. Nothing in the drawers, naturally. On top, a big bottle that must have held quite a lot of rye at one time. No clothing except a shirt that nobody would be bothering about any more. In one dark corner filth like offal from an animal's den.

He wouldn't be coming back. I went out, went back home way across town.

The two of them were waiting for me. Wallen, his big-boned body stretched out on my cot showed bad teeth in a grin as I came in. The other, Spino, was standing, blinking down at my handkerchief on the table where the girl had put it.

"Doin' something down in Pittsburgh, boy?" Wallen asked. His grin got to be a big leering thing that had cruelty lines for a base. He moved on the cot, got his feet around and down. He slapped fat bands on his knees.

"Beats all space how fast us Intelligence guys are," he said. "We follow you down to stay with you all the way, stay even after you leave—and still get back here first."

I didn't say anything to that.

Neither did Spino.

Wallen got up on his feet. The cruelty was a bright thing now, spilling unchecked out of his eyes. "Wise space rat!" he snarled.

HE DIDN'T give me a chance. He flicked out that fat palm of his and cracked me across the cheek with it.

Maybe I was off balance. I went down sprawling and one leg on the cot split when my shoulder hit it. I got up slowly. I ran my tongue around

the outside of my mouth, and tasted salt.

"Genius!" he snarled again. "A real genuine genius we got, Spino. He's got the eyes of a Martian dog, he has. Notices a small peculiarity about the killer in the saloon. How the killer don't never look at the money but he knows it's there anyhow. But he says it ain't hardly nothing worth mentioning. A genius, Greek!"

Spino didn't answer that. His eyes were all on the handkerchief on the table. He didn't pick it up, he didn't touch it. He said softly as if there were no one else in the room but himself: "Red lipspray on this man's handkerchief."

I shrugged, worked up a smile he could look at for a while. I don't know why I did it. I don't know why I didn't just lay it in their laps and watch them go away so I could break out a bottle of something and lie down on my broken cot and listen to the wind and the sand again. I don't know why. I said instead: "There's a law?"

"But it seems odd. You just got out of the mines, you said, before you went to the White Moon?"

But I didn't get a chance to answer that. Wallen wasn't appreciating his partner's efforts. He growled sourly: "Cripe sake, Greek! Can it. It's this other, this him noticing the killer didn't look at the money. That's the important thing!"

"Is it?" Spino said it quietly and without resentment. But the tall man didn't like that either. His thick brows came down. His thick lips pushed out. He looked Spino straight in the eyes—but it was me he hit. And I went down again hard.

"That doesn't buy anything," Spino said softly.

"But I like it, Greek. I like it, see? This goddam drunken genius here was

withholdin' evidence. Then to top it off he resists an officer of Security Intelligence. He strikes me. Like this."

His hands came down fast. He got me somewhere near the throat, heaved me to my knees. Then he let go again and before I could fall over backward his foot came up and smashed in my mouth.

"What else you notice, genius?" he yelled. "Let's have a little straight stuff this time!"

But he was talking to the winds. I was down, shaking my head from side to side, trying to keep the lights from going out.

"Sam," said Spino. "For the love of God, Sam!"

WHEN I came to they were gone, which seemed a little odd. I still had the girl's heat pack, which seemed a little odder. The wind still boomed outside and the sands sprayed against the thin hut walls, hissing, which didn't seem odd at all. I made it to my feet and held on there until everything in the room went back in place again. Then I made myself a drink.

He had cleared out of the old hut down in the fourth quarter district. I thought about that. There were few places he could go. And he couldn't take off, for the ships would be watched. But he would have to hole up for he knew Intelligence was looking for him. And I thought I knew just about where that would be. I made myself another drink and then went out in the wind again.

I hadn't been near the old mine in four years. It was pretty deep as mines on Mars go, and they'd worked it for what they could get out of it with the old-fashioned machinery they had on the planet back in those days. But the veins had gotten restless and moseyed off and they'd abandoned it and moved on, and now nothing re-

mained but the tell-tales, those electronic guards that give off their shrill sounds to warn of radioactive substances still hidden somewhere down in the old bowels.

If he'd ever been a miner he would know about this place, and if he heeded the warnings of the tell-tales he could stick it out down there as long as his food and water lasted.

I crawled under the harricade and went into the mouth, out of the wind and sand, and shook myself off.

The gravity and antigravity platforms were still here, naturally. I took the number four, which was the nearest, down to the seventeenth level.

THIS WOULD be where. This would be the logical place for him. Far enough down so that if they came looking here for him they'd have to do all the labyrinths above before they got down this far. And by that time he could have taken an anti-gravity platform up and out and been halfway on his trek to Venus or Earth or wherever it was he had in mind. If he'd ever been a miner before, that is, and knew about this.

The tell-tales were loud now. They were below, of course, but their shrill keening cry like the shrieks of small animals dying worked its way up through the shaft. I entered the main chamber, and it took me one half second to know I'd been right.

He looked about the same as when I'd first seen him in the *White Moon*. He was big, he had lips that curled, he had fists that things had a habit of evaporating in. And right now both were busy at it. In his left he held a flash that sprayed on the bedrock below our feet. In his right the heat pack with the willing button.

His eyes spread when he saw who it was. "By God. You wish them and there they are!" His voice was the

same big throaty thing that had shook the TV screen back in the saloon.

"You had me worried, guy, you really did. I knew when it was all over I should of give it to you too. And the dame. But a guy gets rattled. A guy doesn't think straight sometimes." I swallowed.

"But it ain't too late yet."

He had me. It was going to be now. It was going to be instantly—or, if he wanted to talk a little first, in a moment or two. I swallowed again and put my arms out from my sides where he could see them. Where they wouldn't worry him.

"Yeah," he said. "Like that. What's your cut on this, guy?"

I hunted around behind my backbone for what was left of my voice. I said shaking it up a little: "The girl. The Bailey man's sister. She sent me with a message."

"Huh?"

"You're to tell him not to go back to Earth, not to go back home."

"Huh?" He seemed to like that one word.

"Because if he went back home and they took him there, it would be bad because his mother doesn't know anything about it and that's the way the girl wants it kept."

HE DIDN'T say "huh?" again. He was beyond that now. His flash was a cone of immovable light that looked as though it had shone on that one spot for centuries. And then I got fresh. I put my foot where my teeth ordinarily hang out. I said: "Or maybe the whole thing's like I think it is. Like you never knew Bailey. Like for instance he isn't here on Mars at all. Like it was just something cooked up for a ten thousand dollar meal."

"Uh-uh, guy. I'll take some of that

but not all. Bailey's here all right. Came in a while back. Worked his way space-bummin' and got through Administration like they was blind since birth. He's here all right. I seen him."

"But the other," I said. I didn't care now; he was going to do it any time, so it didn't matter.

"Yeah. Have to buy that. I think it up outa me own little head. A stake, I figured. With ten thousand a guy could get off this lousy ball of sand somebody kicked out here in space and go home and look at the nice green hills and the rivers. Maybe even swim in them a little. They still allow that, I wonder?"

"I thought," I said. "A girl takes her life savings and believes a yarn like that. Because she doesn't like the way Intelligence feels about that payroll holdup and the murders. And the swiping of a ship and landing it on Venus."

"Huh?" He was back to that again. "Look, guy, this Bailey's guilty as all hell. He's got the money, see? I would of took it off him personal instead of his sister if it hadn't been I was afraid somebody'd see me with him and think I was in on it too. Get me? A guy's gotta be cagey."

What did it matter? How many times could he burn me out? I sneered at him. I said: "That's a goddam lie."

But he wasn't ready yet. Something even amused him and made his thick lips pucker up in a smile. He said finally: "You know, guy, if it wasn't for you not going anywhere at all I'd tell you something. I'd tell you to try a hut out on the edge of the desert near the spaceport. A hut with the number fourteen on it. As it is though, you just gotta believe me. Ready?" He brought the heat pack up, leveled it off on my chest.

AND THEN he thought of something else. He 'blinked, said: "How'd you catch up with me here?"

"I'm a miner myself," I said. "I used to work this old thing four years ago."

"Yeah. I thought. Get set."

There was the wind and the sand upstairs. And down here the keening of the tell-tales.

And nothing else.

He took one step nearer to me. His big fist with the heat pack in it reached out a little.

And something else.

His fist came up level with my face.

And something else.

He heard it too, then. It wasn't much, it was a whisper of sound only. Wedged in between the big yellow wind up on the surface and the high frequency of the tell-tale, it was only an echo of a sigh lost in the limitless wastes of space. It was something you wouldn't even waste a hope on. It was the number five gravity platform coming down.

The big man's fist froze. "That's a platform," he husked.

"Yeah."

"By God! Steady, guy. Looks like you ain't been exactly honest with me."

The platform stopped on the seventeenth level.

"You lousy—!" the big man hissed.

There wasn't any time to tell him he was wrong. Wallen's tall frame suddenly filled the entrance and in Wallen's hand was his Service pack and it was up and out and his thumb was on the button.

"The genius again!" Wallen snarled.

"The damn genius!"

He shouldn't have wasted time talking, he should have punched down on that button. The big fist in front of

my face moved two inches to the right. The big fist jerked a tiny little movement. And to the left of me, Wallen's breath went out like somebody retching in a public washroom.

I kissed the floor with my face.

THE BIG man's fist was moving again now. In the reflected light from his flash I could see it, could see even the sweat heads on his forehead. And then I got the surprise of my life. Wallen's Service pack hissed quietly over my head and the big fist went out of control and the big two-hundred Earth pounds of the big man above me went limp. I rolled to get out of the way of it as it came down.

I shook my head. It wasn't possible Wallen had ducked that first heat. I got up on my hands and knees and looked at him. I looked him straight in the eyes. And then I smelled the burning leather of his Service belt around his stomach tinged with the acrid smell of something else, too, that was burning. It's an obscene smell your nostrils never forget for the rest of your life.

He was dead, of course. He'd been dead when reflex in his thumb muscle had made the thumb touch the button of his heat pack. He went down as slowly as the mercury in an ancient glass thermometer.

It seemed a long time, but it was probably only an instant or two. I was standing there in the small light from the big man's flash on the rock underfoot. I was taking in breath sucking, like a drowning man getting water instead of air.

And I heard, coming from the entrance: "The man wouldn't wait. He had to have all the glory, all for himself. He wouldn't wait. So he propped himself in the entrance and took it and that was that."

I jerked my head up. It was Wallen's partner Spino, and he was looking down at the dead man.

"You got here a little late," I said.

He nodded slowly.

"He asked for it," I said. "Him and his big mouth and his big foot in a guy's teeth."

He nodded again. He said rather gently: "He wasn't what you might call refined. He wasn't much to brag about, and in the street, in civilian clothes, I probably wouldn't even speak to him. But he was the only partner I had."

"All right," I said.

"Maybe you'd better tell me about that handkerchief with the red lip-spray on it now."

I told him.

"Bailey's sister?"—he said. "Bailey's here on Mars?"

"That's what she said. The big guy said it, too. Right before Wallen busted in he mentioned a hut out by the porte. Number fourteen. I think he meant that's where Bailey is now."

He thought about it. Then shook his head at the dead and curled figure of his partner. "Let's go," he said. "I tried to tell him that handkerchief was important but he wouldn't listen. So now it's too late."

HUT NUMBER fourteen was nearer the spaceport than mine. On nights when the yellow wind isn't blowing, and the sand, you can see the big ships going out into space and feel the palsied ground beneath having attacks, from here.

I like to watch a ship going up and out. I remember when I was a boy, it seemed incredible to me that a rush of flame and gas—no matter what noise they made—could have the mysterious power strong enough to lift those big hulls and send them shooting off out of sight. I remember once,

when I was hanging around a port, an old space bum who even back in those days had had his fill of the eternal emptiness of the universe, had seen the wonder in my eyes and had said sort of amused: "You wondering what makes them blasted things go, sonny?"

And I remember nodding. He'd guessed right.

"It ain't the blast. You're on the right track, it ain't that. Ain't no blast on Earth nor Moon nor Venus nor anywheres got the strength to lift that old cow up in the air."

He gave me a toothless grin. He said: "Let's see, how in heck could I explain it. Let's see." He thought a moment, stroking his bony chin. Then after what seemed a long long while he said: "Let's pretend you're sittin' in your little red wagon, see? You're sittin' in it and you're facing backwards and the handle's pokin' you in the spine. Got that?"

I nodded.

"Sure. Now let's s'pose you got a baseball in your hand, and right behind you—in front of you, I mean, for you're facin' the wrong way—is a big brick wall. So let's say you raise your arm and you heave that baseball with all the snap and whip you can manage at the brick wall. And what happens?"

He stared at me, his old eyes blinking strangely. And suddenly I could picture it, I could get it the way he intended I should.

"The wagon would jerk under me," I said.

"Sure. By golly you're a smart kid. It jerks under you, tryin' to go forward. But not because the baseball smacked hard against the brick wall, not that. 'Twas the other, the thrust of you throwin', so to speak. And that's what makes them ships go up."

MY FIRST and my most important lesson in propulsion. And that old, beaten-down space bum was the best and finest teacher this universe has ever known since the dawn of time.

Spino hissed in my ear: "This is fate. This is what you read about in history books. If Bailey's in that hut and I take him alive he can be on his way back to Earth tonight to face the trial for his crime."

"What?" I said.

His brown eyes went to the left, in the direction of the port. "Ship leaving in one hour. If I get him, he'll be on it."

I didn't say anything to that. I didn't know what I was doing here in the first place. I wasn't under arrest myself, or at least he hadn't said anything about it if I was. I was merely here, and that was all.

Spino went around the rear of the hut, around to the door, his feet shoveling sand with every step.

He didn't bother with knocking. He brought up his Service heat pack and put it against the lock on the door. He touched down on the button. The fastest key ever devised.

Bailey was young. He was a blond and very solid even for a man. He wasn't with anybody else, he sat hunched over in a chair and his beard stubble looked like he hadn't thought anything about it for several days. He was studying some sort of a map on a table before him.

Spino said: "Vacation folders, Mr. Bailey?"

The man's eyes seemed very tired, very red, but not very startled. He didn't go for his pack—if he had any. Somehow he seemed to sense that this was the end of the long trail. He said: "It was too good, and therefore couldn't last very long, could it?"

Spino said: "No."

"You're Security Intelligence?"

"I am. Get up."

"How'd you trace me here?"

Spino didn't answer that. One corner of his eye was on a big canvas bag under the table. The bag had stenciling on it. Payroll bag.

"Let's go," he said.

The solid man's eyes had little fright lights in them, but that was all. He got to his feet very slowly. He said, just as slowly: "We going to the spaceport?"

Spino nodded. He inclined his head to me, to the canvas bag under the table. I followed them out. You could see why it was called the yellow wind now. The great white beacons of the spaceport over in the background weren't very white at all. Looking through the dun colored, sand-laden atmosphere toward them they were anything but white. They were changing, blurred, buff-colored things like swirling flames seen through fog.

We fought our way toward them.

THE SOLID man looked up briefly as we neared the heavy bulk of the space hull lying like a massive blob of lead in the spindle-legged cradle. He didn't say anything. Spino led him directly to the guard who stood near the foot of the ramp, back bent against the wind.

Spino said to the guard: "Security Intelligence. Tell the Captain of this ship he has a prisoner. Wanted man named Bailey."

The guard's eyes widened. He nodded, turned, went quickly up the ramp toward the hatch opening. I laid the canvas bag down, put my right foot solidly on it.

There was a noise then. Not too much of a noise against the booming wind, but a noise you couldn't mis-

take, couldn't ever be wrong about. The ground beneath my feet bucked a little. The white lights of the beacons suddenly seemed to recede, become shrunken things in the face of something brighter, more intense, more eye-compelling.

The engineer, inside the ship was letting out little blasts, those preliminary warm-up thrusts every ship lets out before it's ready to go. The ground shook, rumbled, rolled. And then was quiet once more.

I looked at Bailey. His red, tired eyes were wide now, staring. Not blinking, even though he stood directly in the face of the yellow wind that cut at his solid frame.

I looked at Spino. His teeth were showing. Fangs. He couldn't help that any more than I or anybody else could, standing unprotected as we were.

The ground shook again, was quiet again.

And then something happened. One instant Bailey was here, the next not here. Like something perceived incorrectly in the first place and therefore not quite believed. He was running, his solid legs churning the sand, the clothes on his back billowing out behind him from the wind that tried to tear him apart atom by atom. I started to yell, but Spino didn't need that, he had seen in the same instant. He raised his Service heat pack, took aim with it; but he never got to use it.

The roaring of the wind heightened a little and the earth thundered underfoot. Sixteen jets around the huge hull of the ship spit out a halo of disintegrating heat that ate at the sands below like a giant maw in ravenous hunger.

And Bailey was gone. And there wasn't anything left behind to convince anybody he'd ever been born. We didn't even hear his scream of insanity as the heat got to him in that

one split, boiling instant, for when the yellow wind is booming, and sixteen jets speak against it, you don't hear anything else. There just isn't anything else, the human eardrum is only finite after all.

The blasting stopped. Spino put up his Service heat pack with a tired gesture. He looked at me. He said then very close to my ear:

"There isn't anything any more final than that anywhere."

"No," I agreed. "No, nothing more final than that. Not even a pair of cheap, gray cotton gloves when the pallbearer peels them off and tosses them in the hole."

IT WASN'T a nice thing to have to tell his sister. There wasn't any reason, of course, why I should give a damn one way or another, the guy was a thief and a murderer. And now he was dead. But the sister had loved him. Had loved the mother back on Earth too, and hadn't wanted this to touch her at all. And she had cried into my shoulder and looked up into my eyes.

Spino didn't put me under detention. He dressed me down, let me go. And while I was listening to his quiet words on the duty of every citizen to the Security people whose duty it is in turn to protect those self-same citizens, I was thinking of something that hadn't occurred to him. Something which, in the excitement of the last couple hours, he'd overlooked.

Somewhere in that abandoned mine, somewhere down on the seventeenth level, would be the girl's ten thousand dollars.

I had to wait, of course. I had to give them a chance to get the two bodies out before I went back there. I stood in the front window of a saloon similar to the *White Moon*, and watched them across the way at the

mine shaft. It didn't take them long. They had the old familiar wicker baskets, and one of them would be for the big man and the other for the man with the big mouth.

I went down. They'd worked here. There were pieces of simul-tape lying around. One of their Lab men had had a little trouble with his recorder. There were a couple used flash bulbs. They'd taken pictures. And that was all, and the tell-tale still keened in the black pits below where there isn't any difference between night and day.

I found it down on the nineteenth level. He'd taken chances going down this far without protection, but of course it wasn't as though he planned to stay down here long. He hadn't even hidden it, he'd just tossed the roll of bills inside the entrance and let it go at that. I got the thick roll, took it up on the seventeenth level and counted it.

The money was still all there. It was ten thousand dollars to the cent. I counted it, thinking as I fingered each separate bill, how the girl must have had to work to get this much saved up. Like this one bill, for instance, this bit of currency they used to call a century note back in the olden days. I rubbed it under my thumb and forefinger, wondering just how many hours of slaving in what unknown factory somewhere either here or on Earth went into the earning of that piece of paper. I rubbed it reflectively.

I rubbed the ink off of it.

THE YELLOW wind still boomed outside and the sand still hissed, wearing the hut walls thin. I was sitting on my broken cot, and in my left hand I had a drink and in my right hand the tiny heat pack she had given me. On the table was the roll of bills where she'd see it when she came in.

She did. She came in the door fast

because of the wind. She closed it with her shoulder and for one moment just leaned back against it getting her breath. Her eyes were on the bills and there wasn't any expression in them.

I said: "Been listening to the simulcasts?"

"No," she said. She turned her head. "Where did you... you saw Anderson? You found him?"

"I found him," I said. "He's dead now. That's how come I got your money back."

She came slowly across the room and looked down at the bills. She blinked. "You'd better sit down," I said.

"I—it wasn't you?"

"I didn't have a chance. Security got him and he got one of them."

"Then..." Her eyes went wide on me.

"No," I finished for her. "I gave him your message but he didn't have time to relay it, they came down on him just then."

She just looked at me for that.

"It must have taken you a long time to save up that much," I said. "I worried about it. I went back and found the money after it was all over. A girl like you, it must have taken a long time."

She watched me like you'd watch the clock two seconds before quitting time. Her small nostrils pinched tight, her large mouth was a straight unmoving line across her face.

"A long time," I said again. "All of fifteen minutes or so running cheap paper and cheaper ink through a printing press to make a wad of phoney money."

"Wha—"

"You did it nice," I bored on. "You put your head on my shoulder and you cried and got lipspray all over my nice clean hanky, and I fell for it

hard. And just to make sure, you even threw your arms around my neck."

SHE DIDN'T say anything to that. She sat in the chair before me. Her hands were quiet in her lap. Her eyes were watching with strange lights in them, to each word as it came out of my mouth.

"I'm not very smart, lady," I said. "Hell, I'm a miner, and you know how smart that is. But on the other hand, God gave me a brain and expected me to use it a little going through life. So after a while I did begin to use it, and here's the way it seems to me..."

I stopped. She was still sitting quietly, her features expressionless and her hands folded in her lap.

I said: "Bailey didn't have a sister, or if he did it wasn't you. The two of you were in this payroll thing together. You did it. You landed on Venus. But then something happened. Bailey decided it would be silly to split two million three hundred and forty-five thousand when he could have it all to himself."

She didn't say anything to that either.

I went on: "This is all piecework, of course. The exact details are things only you would know. But you traced him to Mars somehow. After that it was a case of getting to him, which wouldn't have been very easy except for a little angle you thought up:

"You noised it around you were Bailey's sister, hoping for the grifters, the con boys. You wanted to be taken, hoping desperately one of these might lead you to where Bailey was stashed out. So you sat back and in rolled the guys with hands out like you knew they would. How many did you pay off with phony money before you located the big one, this guy Anderson?"

I looked at her. She wasn't moving. She might have been something carved there out of a piece of the hut wall. I sighed, went on: "I wasn't in it at the beginning, of course. The way you planned it Anderson would grab the money and take off. And since you were a nice soulful-looking thing with a mother back on Earth and everything, you figured the barman at the *White Moon*. You'd set him up with the yarn you told me and he'd do the trotting.

"Only it didn't work that way. Anderson got nervous and burned the barman down, so it had to be me. It didn't matter after all who the guy was, all you wanted was information anyway." I stopped again. There didn't seem to be anything more to add to it.

SHE WAITED a little bit as if expecting more, but when it didn't come she smiled, looked down at her hands, looked up once more, looked over to me, gave me the smile like she was putting flowers on somebody's grave. And she opened her very nice lips and she said softly: "You're clever. I think you're one of the cleverest men I have ever known. At first I took you for just another guy, sure. But in the last few moments... look, guy, you've made me change from all that. You've made me admire you."

"That's nice," I said.

She inclined her head. "More than that, guy. You've done something inside me. You've made me love you. I didn't think that could happen to a gal like me ever. I've met too many men too many times for that. I didn't think it could happen."

I put my drink down on the floor. "And you know?" she said softly. "You know something funny? I heard your name once tonight on the simulcasts but I've forgotten it. For the

life of me I can't think of your name. And yet, there wasn't anybody in all history down through the ages to the dim dim days of creation has ever loved a guy like I'm loving you."

"That's nice," I said.

"Look. Anderson's dead. All right. We don't need him. We'll work it anyhow. We'll get Bailey's hangout and we'll take him hard and we'll have the payroll for ourselves and...oh, darling, darling, it'll be so wonderful!"

"I already know Bailey's hangout," I said. "The guy told me before Security got to him."

She stared pop-eyed at me. She got up out of the chair. She came across the room toward me. Her arms were out as though she were some little kid's mother eagerly welcoming home the little kid from his first day of school out in the big world.

I lifted up the small heat pack, put it on her. I said: "Uh-uh."

"What?"

"Uh-uh. The brains God gave me. Remember?" I grinned at her. "You're the best damned actress ever hit the spaceways, lady," I said. "I'll give you that much. But uh-uh."

IT'S ODD how fast they can change.

They're adaptable. One minute their eyes adore you; the next eat you and, eating, mix your remains with the saliva of regurgitated hate.

Her outstretched hands became talons. They started to come down to my level on the cot. I felt sweat ooze up on my forehead watching them.

"You'd better quit that," I said. "This is a heat pack, you ought to know that, you gave it to me."

It might as well have been an excursion ticket down the grand canal, she paid it that much attention. She took a step closer. Her eyes were large screaming things now with tints of

insanity flashing as the lights played on them.

"Don't make me do it, lady?" I breathed. "God, I've never burned anybody in my life, don't make me now!"

How silly can a man get? She didn't even listen. I felt my tongue running over my dry lips like a Martian lizard searching for some place to hide. My armpits were wet, and beginning to itch under my shirt. I wrapped my fingers tight around the heat pack and I forced my thumb down somewhere in the direction of the button.

But she knew I couldn't do it. God gave her brains too.

"Little little man," she whispered. "Little little weak weak man. Give it to me, little man."

"No," somebody said over in the corner.

The woman jerked. The voice of Spino had come from behind her. She jerked, but just once, and after that she was as paralyzed as the skin on a spaceship.

"No," said the voice again. "He definitely will not give it to you. Turn around, woman."

It was Spino. Good old Spino, the Greek who once had a partner but didn't now any more. His head was coming up from behind the big wardrobe over in the far corner of the hut, the wardrobe where I keep what little junk a man must have on this cursed and forsaken planet. His head was coming up following his outstretched right hand which was holding his Service-heat pack, and the heat pack was on the girl's back and couldn't miss her any easier than it could miss any of the walls in the small confines of the hut.

THE WOMAN didn't scream, I'll give her that. She didn't do any-

thing as a matter of fact, except turn around and look at Spino and take a deep-breath way down inside of her like an exhausted sigh.

"You damn-near got me murdered," I growled at him. "Why the hell didn't you come out sooner?"

"What? You held a gun on her, what more did you want?"

I didn't reply to that. But a lot of good a pack would have done me. He must have been blind if he didn't realize that.

He said with a smile: "The woman is right, you are clever. You shouldn't be mining, you should be in Security Intelligence."

"Sure," I said. I wiped my forehead.

"And you're predictable. I had my men put that roll of bills down on the nineteenth level where you'd be sure to find it. We found it ourselves up on Seventeen where Anderson hid it. We wanted you to find it. Wanted to see what you'd do with it." He shrugged his shoulders, smiled a little apology. "I wasn't sure at that time, you see. I wasn't sure about you."

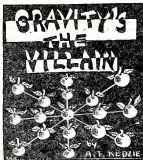
THE END

"All right," I said. "And now, get her out of here."

"Yes, of course. Incidentally, just in case you ever have any doubts about all this, I'd better tell you something now. She's guilty. Maybe you don't quite believe it inside you, but she is. She's as guilty as she could ever be, and she proved it herself."

I looked up at him. I didn't say anything. He said, still smiling a little: "She told you the exact sum of two million three hundred and forty five thousand dollars. And she was absolutely correct. Only one thing. If she were not guilty, if she had not been Bailey's partner on that stickup, how would she know the amount, I wonder? You see, we kept that part of it quiet, we never told the figure over the simul-casts."

He took her out then. The door of the hut banged to behind them and the booming savage yellow wind outside shrieked and flung sand up against it. And I sat down and picked up my drink from the floor and held it to my lips and drank it down.



WE DON'T know exactly what Sir Isaac Newton said when the hypothetical apple struck him on the head—and caused him to do some heavy thinking—but you can be sure it was something like "Damn!" Even objective scientists lose patience with Nature sometimes. That falling apple set off a chain of events whose consequences will never cease to be felt by the world from now until the end of time. Gravity is the greatest of all mysteries, and such things as electrons and atoms, light waves and quanta are child's play compared with it.

With the exception of one theoretical guess, no one has ever explained gravity.

Describing its behavior, calibrating and measuring it, noting its consequences—all these things have been trivial. From a metrical standpoint, science knows gravity as well as anything. But as to its real nature—uh-uh!

Gravity is of course the attraction all materials have for each other, and it varies

according to the well-known law of the product of the masses, and the inverse square of their distances. Most electrical and magnetic phenomena obey the same law and the experimental determination is always true, everywhere. Gravitational effects appear to occur instantaneously; there is no such thing as a gravitational "shield", and the Einsteinian explanation of gravity as a geometrical property of space seems to be sadly lacking. Yet this commonest and most important of all natural laws refuses to proffer the slightest crack into which a scientific wedge may be driven. Because of gravity, Man is chained to his planet, able to escape it

eventually only through the most elaborate and incredibly complex technologies that can be imagined. In thirty thousand years on Earth he hasn't done it yet, and is just about to make the effort!

What, in Heaven's name, is gravity?

With science jumping ahead at a tremendous rate, undoubtedly sooner or later somebody is going to come up with the answer. The chances are that the answer will come from a paper-and-pencil "long-hair" rather than a lab man, because gravity is in some intimate way linked with the most fundamental things in the universe—electricity, magnetism and light.

THE SAW THAT LEARNED TO FLY

By JOHN WESTON

THE FASCINATING hobby of some sci-fi fans, readers and writers—that of peering into the immediate future—is often more enjoyable than covering worlds of space or time. Nor is it a far-fetched one; experience tells them roughly how far they dare extrapolate into the future with reasonable assurance that they won't be far wrong. Of course, there are many "ifs"—but there is also assurance that, say, a world like that projected in "1984" hardly stands a chance of coming into being—especially with a warned and fore-armed citizenry. But the main charm of examining the immediate future via science-fiction comes not from considering political systems, but rather the gadgetry and tools and entertainment of that time.

Just jumping ahead a mere twenty years assures us of having color-television, many more automatic appliances, the wider use of electricity and robotics for every conceivable task, the elimination of hard work of the physical variety, etc. A good bet also is that a rocket will have been bounced off the Moon by that time. The general field of transportation will not be revolutionized except in one respect. The vehicle which a few years ago was being built in a trickle, is now becoming a stream and by then will be an enormous flood—the one sure prediction for transportation in the near future is the helicopter! This versatile machine already is demonstrating its utility; by then it will be indispensable.

The whirling blades of the helicopter will be as plentiful—and more real—than the reports of flying saucers, for the helicopter is destined to replace the automobile.

It's in the cards and you don't need tea-leaves to see it.

Right now, despite the interference of the "Korean matter" the helicopter has demonstrated its usefulness so thoroughly that private industries and citizens are begging to obtain it. Plans are available for small, cheap craft of reliability and sturdiness.

The helicopter of the future will look something like this: it will have a closed cabin accommodating three to five people much like an automobile. It will be powered very likely with some sort of small jet engine attached not to the drive shaft but to the outer tips of the rotors which will swing in a fifteen—perhaps ten—foot circle above the vehicle. It will be absolutely safe—when power fails, it simply descends slowly to the ground. Airspeeds of a hundred or a hundred and fifty miles per hour will be expected. These guesses may actually be conservative, for there are in the making helicopters whose specifications are not far from these.

One observer has characterized the helicopter and its unique abilities very nicely: he's pointed out that a helicopter will do everything an automobile will do plus everything a horse can do! If you stop to think over the terrain an animal can cover, how closely he can be brought near a given spot, over what obstacles he can be taken, coupled with what a car can do in the way of speed and reliability, it's easy to see that this comparison is remarkably close and accurate. You can't order this helicopter now with any assurance of getting one, but don't bet that you won't be able to in another five years—or twenty!

TOMORROW'S SHADOW



Weird entities arose in his mind



By Arthur Stangland

Things were tough enough for spies in the old days. But now an added hazard is the possibility of tripping over a time warp

ON THE lettuce-green wall of the hospital waiting room, I watched the red second sweep of the clock turn round and round and round.

Would the nurse never come?

In a bed on the upper floors somewhere in the labyrinth of the Atomic Energy Commission hospital lay Frank—Dr. Frank Sproul to the world of

science. Lay there while the tumor in his brilliant brain stole the life out of him.

Round and round the red blade circled, sending my mind drifting off in hypnotic stealth. Back, back I went, recalling the chain of events that put me here on the edge of a chair. I remembered in righteous anger....

It could all have been avoided if

they had listened to me. But then, I didn't go about things in a casual manner either, what with the terror of the vision still fresh in my mind.

I just had to see Frank and warn him before it was too late. That was why I went barging into the AEC personnel office to trace him. When he went to work for the AEC, he disappeared behind an "iron curtain" of censorship.

Warn him? Warn him about what? they asked, as if I had been babbling about a mystery wrapped up in an enigma. I must have been completely batty to take off the way I did. You just don't do that. You take it in easy stages; you even go back and start with one and one is two.

I forgot all that. I started right in with the minus-time image I'd had the previous night. Just like that, going full blast. You see, I went on to tell them, there was this guy with a peculiar limp in the time-image, biting Frank on the back of the head, and it was going to happen pretty soon I figured, because—

DEAD SILENCE. I back-tracked and took a haul on the slack I'd left behind. I explained that minus-time image means a dream of events to come. Only it's more than a dream. You wake up in the morning and write down a description of all the dreams you had the night before. A number of them will turn out prophetic. Like H-Hour, or D-Day, T-Time related events to the present as minus or plus.

They wouldn't listen.

I walked out of the place with my cheeks burning, and behind me a pack of Comanche Indians laughing their heads off.

Why didn't the nurse come?

I remembered the telephone call from the AEC personnel office two

months later. Frank was ill and the doctors thought I should be with him. In a cloak-and-dagger atmosphere I was taken to the hospital on a little-publicized AEC reservation. From the hospital I saw massive, permanent structures and a cube-like building with blue-green polaroid windows.

"Very regrettable episode," James Kellman, the hospital superintendent, told me. "Your brother was attacked by someone when he went back to his office here on the reservation one night. Struck him on the back of the head while he fumbled for the light switch. The blow resulted in a brain tumor." He sighed a little. "Yes, a very mysterious affair. The F.B.I. still have not solved it."

Just one little item there was not true. Frank and I were not brothers any more than the rest of the kids at Aldrich School for Orphaned Boys. It was the only home we'd ever known, and out of a mutual yearning for kin we'd decided to be brothers.

We stuck together through high school, and found no job too small to help us through the University. With a mind that worked as smoothly and swiftly as an electronic computer, Frank became a mathematical physicist and I turned into a science news reporter. Then came the time we read John W. Dunne's *An Experiment With Time*. Fascinated by the concept of the subconscious mind reaching into the future, we decided to experiment ourselves. Each morning as we awoke we recorded all the dreams we could recall in our Time Displacement Book—our T-D Book. Dreams? Uh-uh. Not all of them. And especially not my vision of Frank being struck on the back of the head.

I heard a step and looked up. It was the nurse coming through the door.

"You may see Dr. Sproul now, Mr.

Bradford. Will you come with me?"

I got to my feet and followed her to the elevators. We rose to the third floor. Following her along the corridor, I sighted a man ahead of us. A man with a slight limp. Upset as I was, that limp instantly linked up with the limping man of my awful Time-image, and a senseless alarm seized me. But after I thought about it, I calmed down. The black pixies were after me, as Frank would say.

Just the same, I kept my eye on him. Finally he disappeared into a room, and I discovered we too were going there.

AS I ENTERED the room I saw Frank near the window. His head deep in a pillow, the light sought only the pallor of his cheeks, and made dark caverns of his eye sockets. This was not the Frank I knew. Frank, who could amuse himself reading *Thermal Dynamics*, or hold the fascinated attention of a bull session while he pungently expounded his Time-Displacement theory between deep draughts of bock beer.

The nurse said, "This is Dr. Wilbridge—Mr. Bradford."

A firm hand clasped mine, and I looked at composed blue eyes, a wide forehead, smooth, purposeful cheeks. I felt the impact of intelligence and confidence, but a nagging thought kept yelling out in the back alley of my memory: this guy limps! *Limps!*

"I'm glad you came, Mr. Bradford." He glanced at his wrist watch, and his starched whites whispered. "I've held up things until you could arrive."

"The superintendent filled me in on the details."

Wilbridge waved me toward the bed, saying quietly, "Dr. Sprout—Mr. Bradford is here."

Frank was an awful sight. Grey-checked, lips pulled across his teeth,

eyes half opened in glazed disinterest. At the sound of my name it was as if a bellows had blown upon dead ashes and brought life from them. He stirred in bed, turning his head toward me, and recognition resurrected the old gay spirit.

"Hi, old sock—how's the typewriter guy?"

Frank's right hand lay limp and colorless. I reached out and touched it.

"I came as soon as they would let me," I murmured. A chill crawled along my nerves and flurried through the roots of my hair. But I managed a grin for him. His half smile soon faded, and I stood there beside his bed, while the thoughts in me rolled sluggishly. I shoved my hands into my pockets. I didn't know what else to do with them.

Then behind me I became conscious of mounting muffled activity, the almost silent running of rubber tires on cement floors, the snick of metal instruments against each other, the whispering of starched cotton.

A NURSE appeared from nowhere. Into my hands she put a clipboard with a sheet of typewritten paper. "Will you sign this release, please, Mr. Bradford?"

Numbed and only partly comprehending what was happening I said, "What—what's this for?"

"It's a paper releasing the hospital from responsibility for what the doctor is about to do to your brother."

Trying to ignore the muffled activity around me I began to read.

"This release," it began, "fully concurred in by the signer below, absolves the hospital and the United States Government through its agent, the Atomic Energy Commission, from all claim, suit, criminal action or damages, due to such action as may be taken by

the Commission's doctors in the treatment—"

Suddenly my attention was interrupted by the sound of a new voice.

"But I was supposed to have them today," the man was saying.

I looked up to see a small slender man talking to Dr. Wilbridge. An intense look of concern filled his close-set eyes, and the flat of his right hand was nervously smoothing back his straight black hair.

"I'm sorry, Mr. Baeder," Wilbridge told him, "but Dr. Sproul has been too ill to work. I can't help it if the electronic computer section is held up. The whole program is going to have to wait until he recovers."

"But those two time-field formulas were supposed to be done. They were all I needed." Baeder sounded desperate.

"Goodbye, Mr. Baeder."

As the slender man turned away, I dropped my eyes to the legal document. Wilbridge said something to the nurse about Baeder, but I paid no attention. In the mass of legalistic terms that lawyers cherish were such terms as "exposure at the top orifice", "temporary falling out of hair will not be a cause for legal claim", and so on.

SUDDENLY, I was aware of eyes on me, Dr. Wilbridge's eyes, and my mind began somersaulting. It got all tangled up with the vision of a limping man striking Frank, my recent picture of Dr. Wilbridge limping down the hall, seeing Frank so deathly ill. And so I reacted like any man who is scared to death. I was suddenly and defensively belligerent.

"What the hell is all this about?"

I said, patting the clipboard with the back of my right hand. "The top orifice. Hair falling out, and all that. Just what are you planning to do to Frank?"

Wilbridge's voice dropped to a smooth bedside-manner voice. "What we are going to do essentially is burn the tumor in his brain with radiation directed—"

That was as far as I let him go. "No, by God! I'm not letting you experiment with my brother!" I looked around, and I guess I looked a little wild and desperate, because I surprised expressions of astonishment on two interns and the nurse. "Where's the superintendent? I want to see him right away!"

In my excited state, I guess my voice went up a few notches. The nurse shushed me with a concerned glance toward Frank. One of the interns, talking earnestly to me, eased me toward the door. In the background I could hear Wilbridge talking rapidly on the phone to the superintendent.

In a matter of moments, Kellman, the portly superintendent, came down the hall.

"Look here, Mr. Kellman," I began, "I want my brother moved out of here to a city hospital."

Another doctor arrived to join the tight little group outside Frank's room. Belligerently, I shot questions at them demanding, accusing, giving them hell. But they were a patient, calm-voiced lot, and before long I was talking reasonably with them.

"Mr. Bradford," Wilbridge said, "the tumor is already eight millimeters in diameter, and if we don't go after it now with radiation, nothing in orthodox surgery is going to save your brother's life. Do you want the responsibility of denying him a chance of survival?"

When they put it that way, I didn't look at Frank's door very long for an answer. There was only one to give.

"Okay," I said. "I guess maybe it's just that the idea of radiation in his

brain scared me."

That was that. They disappeared, and I found myself musing alone in the hall. What was the nature of Frank's work here? And why had he been attacked? Since the attacker had not yet been apprehended, it meant that Frank was still in danger.

BEHIND me the door knob clicked. A vertical panel of light appeared on the wall to my left, broadening into a wide panel. I turned around to see Frank coming through the door feet first on a rolling table.

When he passed me, I got a look at the crown of his head. What I saw gave me a sickening shock. A silver hatpin-sized rod topped by a tiny knob skewered his skull.

Following the interns pushing the table, Dr. Wilbridge evidently caught my look of dread. With the skill of a ballplayer fielding a bounding ball, he handled my shocked senses with clever nonbalance.

Avoiding a ponderous explanation, he said casually, "Marvelous instrument, that. It's a brain probe with a Geiger counter on the end."

The cold shock of my grisly discovery did not subside readily. I fell into step with him.

"But a Geiger counter," I protested. "A Geiger counter is for atomic radiation detection."

Wilbridge nodded. "Just so. And that's what we're going to do—measure the amount of radiation in his tumor after the explosion."

"What do you mean—explosion?" I said, and I guess an incredulous tone crept into my words.

Wilbridge laughed in great amusement. "You sound as if we're talking about an Eniwetok blast right here. Don't worry, the cure isn't quite that drastic. You see, the explosion I'm talking about is confined entirely in-

side the patient's body. We're using boron, injecting it directly into the bloodstream where it is immediately attracted to the brain tumor. Then we expose him to slow neutrons from the National Pile. They in turn fission the boron atoms and the boron disappears into harmless lithium. But while the atoms are exploding, the radiation destroys the tumor cells."

I shook my head in amazement. Then I began to worry out loud. "But, won't the beam of neutrons injure his brain tissue?"

"No. Their intensity is too low."

"What about radiation sickness?"

"The explosion is too small."

AT THE end of the long corridor we walked into the cavernous building housing the atomic pile. The great cube towered high above us like a mausoleum, but under that concrete shield lay many seething hearts of the monster—thousands of slugs of uranium in aluminum cans. Down deep inside rumbled the mysterious thunder of air roaring at hundreds of miles an hour. Overhead cadmium rods controlling the rate of fission projected a few feet from the face of the cube like giant hat pins.

My eyes found their way to the Geiger counter in Frank's head.

Wilbridge said above the subdued thunder, "We're taking him topside. Come on up, and I'll explain things."

The interns carried Frank easily up the stairway to the top of the pile. Wilbridge bent over him, pressed a hypo into his right arm. He stepped back, glancing at his wrist watch.

Briskly he began explaining the routine. "The interns stand near that edge of the top with adrenaline and coramine to revive him if necessary. That slanted mirror over the leaded well enables us to keep an eye on him. I'll be on the walkway below the

cube edge with a hand mike for communication with the interns. Below Dr. Sproul's head is the orifice where the slow neutrons emerge."

I took two steps over to Frank. "Good luck," was all I could say.

The interns lowered him into the leaded well and placed him over the orifice.

Giving Frank a prizefighter's clasped hands signal of good luck, I started over the side of the cube and down the ladder. I put the flat of my hand against the concrete shield to steady myself. Suddenly, I remembered the seething flux of gamma radiation behind there, and I snatched my hand away as if stung.

I stepped outside the building and lit a cigarette. Over the door a sign in red letters flashed on: "Danger. Keep out. Pile in Operation."

The deepening twilight brought out a myriad stars and I stood looking up at them, my thoughts running in a ragged, jerky cadence.

Nervous and tense, I flipped my half-smoked cigarette away, trailing sparks. I remembered another evening at Frank's apartment when with the stem of his pipe as a gesturing pointer, he had driven home certain of his concepts.

"Time?" he had said rhetorically, "Time is an attribute of matter, and the duration of any particular lump of matter is only relative to the regular motion of some other lump of matter. You know—Einstein. Now, these minus-time images we are recording in our T-D books are the effect of Time on living cells. Sensory-Time, in other words. You've heard others say, 'Why, I've been here before, it seems!' or 'I've done this before!' when actually they haven't. It's merely the memory of their minus-time image resembling reality when it comes along. Sensory-Time reaches into the

future by some magical link between living cells. Like the attribute of gravitation generated by lumps of matter coming together."

AND THEN there was the time he trotted out his theory of the Universe. A theory that, once I understood it, made me look at everything—the books on my desk, the clothes I wore, the food I ate, the car I drove—with a new awareness.

He had sneaked up on me with it one night, as he had a habit of doing. His face was innocent itself as he asked me, "Remember the laws of Conversion of Energy and Matter?"

"Well, of course," I said in mild disgust. "Nothing can be created, nothing can be destroyed. It can only be changed from one form to another."

"Exactly," Frank said, and a slow grin began to line his face. "And so, after awhile, you and I die. The hydrocarbons, the phosphorus, the calcium, the iron—and all the rest of the atoms that make up you and me are dispersed. And after an immense time even the atoms of Earth are dispersed. But those atoms go on combining and recombining into life forms or inorganic forms until, after a staggeringly immense time, all those atoms finally get together and Earth exists once again. And so, eventually, you and I are again sitting here discussing this very same concept."

I put my chin in the palm of my left hand and gave him a cocked eyebrow. "Now look, Frank," I began, "your imagination is running away with you. In the first place, think of the infinite probability against that occurring!"

Frank puffed on his pipe a moment, then said, "You forget the curvature of space, and the condensation of matter along that curvature. As matter

swirls about in space changing form and reforming again, it tends to follow those same Time-tracks it occupied previously. It's the only way I can explain time-images being anticipated by our subconscious minds."

And now as I stood staring up at the stars I wondered if Frank survived *before this*—

Suddenly, the warning sign behind me blinked out. The pile had stopped operating.

I stepped back to enter the building. The long gleaming rods of cadmium were rammed home into the cube, stopping the process of fission. Technicians in charge of actual operation of the pile moved in front of three gray panel boards pulling switches and jack plugs.

When the busky young interns came down with Frank, I craned anxiously to see his condition. All I could see was closed eyes in a white face.

As Dr. Wilbridge stepped down, I ventured, "He looks pretty well done in."

His answer was matter-of-fact. "Yes. It's a psychological ordeal, but he'll be all right. I just gave him a sedative."

"What about the success of the therapy?" I glanced back at the giant cube.

Wilbridge nodded confidently. "I think the chances for his recovery are excellent."

"Thank the little lords for that. When can I see him again?"

"Oh, he'll sleep all night now. Come back again before noon tomorrow."

I DIDN'T sleep too well that night.

A rumbling truck passing my hotel-window triggered my mind wide awake. Then I fell into a jumble of disturbed dreams.

In the morning I recalled them. In my T.D. book I wrote: "April 10.

I am standing with a clock in my right hand. The hands stand at 7:30 and I am intensely disturbed about something. Also, I am conscious of my back."

I went to the hospital in the middle of the morning. Wilbridge allowed me only a few minutes with Frank, who seemed improved.

He squeezed my hand hard as I was taking my leave. "Come again, Ted; we've got a lot to talk over."

Something about the intense look in his eyes conveyed a sense of much being held back because of others in the room. I thought a lot about that as I left the hospital.

What was the nature of Frank's work here at the reservation? I worried over it considerably. It even crossed my mind that they were all lying to me, that Frank had not even been attacked, that he was suffering an occupational hazard and they were trying to cover up. Yet, when I dwelt on the attack itself, I embroidered that event with all kinds of horrible threats to his life, including that picture of Wilbridge limping and scaring me half to death.

It was on the third day that we were left alone and able to talk without restraint.

"Golly, Frank," I told him, "I'm sure glad to see you like your old self again. And the news from the superintendent is all good. You're going to leave the hospital this week."

"I feel good, too," he answered. "A lot of cobwebs got blown out of my head."

"More than cobwebs, Frank, according to the superintendent. But it wasn't really news to me because, believe it or not, I had a Time-imp of it two months ago. If those damn numbskulls down at the personafice had listened to me, the thing might have been avoided."

Frank's eyes lit up. "You actually had a minus-time image of it, Ted?"

"Yes—bright as day."

"I'll be damned," he said. "Well, I'll be damnd!" But he was looking through the window like a man pondering a far horizon.

HIS VOICE dropped a tone as he quietly began again: "You know, I—I've wanted to talk to you all this week and tell you what happened to me up there on the Pike."

I waited a moment, but he didn't speak. "What happened, Frank? Go ahead; I'm all ears."

He kept twiddling a pencil in his right hand. Finally he said, "When those boron atoms began fissioning in my brain, it was a sock right between the eyes, Ted. Like turning on a brilliant spotlight in a dark room. Time had a flowing sense, shimmering in white fire, and as a witness to it I had no more dimension than a point in space. There before me spread the endless expanse of Absolute Time in all its majestic grandeur."

I found myself half-whispering, "Dunne's *An Experiment With Time* come to life!"

He went on: "Time is not a single invisible flowing river. It is a limitless ocean with many currents winding through it. Parallel Time."

"Parallel Time," I repeated. "You mean, simultaneous worlds?"

"I mean they are the paths of all possible futures resulting from different combinations of matter. Like a chip falling into the ocean and following one current this time, a different current the next."

"You mean that accounts for what we think we know as 'free choice'?"

"That's right."

I would be less than humanly normal if I didn't try to learn what he was doing at this reservation. And here

was my chance.

"Okay, Frank," I said, "what you are doing here can be a pretty important chip then?"

He didn't look at me for a moment. I was giving him his chance to tell me, and I wouldn't push him any more than this.

Finally he said, "Yes, Ted, a pretty important chip. The theory of micro-temporal displacement. It means unhinging an object from its time phase so that its duration is altered. A flight of planes in formation illustrates it. If one of them falls out of the group it is displaced. Micro-temporal displacement is a tremendous advance in atomic bomb defense. Establishing a time-distorting field will take enormous energy, but only for imminent attack."

IT WAS like a sock on the chin. "Wow! No wonder you were attacked. An inside job by someone here who knows what you're doing."

"Yes," Frank agreed. "There's one sheep out there somewhere in the reservation with a wolf under his wool."

During the next few days I got permission to do a story on the medical application of atonics for the *Sun-Herald*. Then, a few days after Frank was released from the hospital, I'd just returned from filing a story at the Ultrafax for the *Sun-Herald* when my hotel visiphone went "buzz!" It was Frank.

"Ted," he began, and his image grinned, "come on over tonight and let's have one more ball session before you leave tomorrow."

"Okay," I answered. "I'll be over."

As I set out for his apartment, an apprehensive mood settled over me. I was worried about Frank's safety, and of course my time-image of the clock only added to the somber picture. A dreary rain was falling, and

the shadows along the streets never seemed blacker or more menacing.

At his apartment door, as was our mutual custom, I merely gave a warning knock and walked in.

"It's the secret police! Open up!" I called out as I went barging in.

The sight of Frank sitting on the davenport obviously, looking across the room at someone, stopped me in embarrassed confusion.

"Oh...sorry, Frank," I muttered. "I thought you were alone."

- Across the room a small dark-haired man gave me a quizzical glance out of close-set eyes. Something about him sitting there seemed familiar, but first off I couldn't figure it.

Frank said, "Hello, Ted." For some reason it didn't seem like his usual self. It sounded like the perfunctory words of a man with his mind intent on something else. With a stiff little nod he said, "This is Mr. Baeder from the reservation computing section."

SUDDENLY, as I turned to Baeder to acknowledge the introduction, an auditory recollection squirted out of my subconscious. Dr. Wilbridge was talking in my memory: "Baeder could get rid of that limp if he'd let me operate on that knee ligament."

So that's what the doctor had said when I was reading the release, the nurse gave me to sign. Baeder. Could he be the sinister limping man of my minus-time image? But then, Dr. Wilbridge limped. A lot of guys limped since the war.

As I extended my hand to him, I got the impression of a quiet, unobtrusive man staying in the background and doing his work with the unspectacular efficiency of a well-oiled machine.

He lifted his right hand out of his suit coat pocket and extended it with a noticeable lack of enthusiasm. I took

it in my grasp then, feeling an astonishment which I tried hard not to show. Astonishment because the palm of his hand was quite cool—and the back of his hand was warm.

Had he been clutching metal—a gun, maybe?

Baeder mumbled something about being glad to meet Frank's brother, then put his hand back quickly into his pocket. I remembered something else now, too. Baeder had been upset about a couple of time-field formulas he wanted from Frank at the hospital. Why?

Now, he stayed on his feet and his close-set eyes sought out Frank. "Time's running on. Don't you think we'd better be leaving?"

I looked at Frank in surprise. "Oh, that's too bad. I thought we—"

Frank was all apologies. "I'm awfully sorry, Ted. Something came up at the office—and Baeder came to get me."

The way he set that last phrase off by itself only heightened my alarming suspicions. *Come to get me.* There was only one interpretation of that. From the corner of my eye I thought I saw Baeder's right hand clench a little tighter.

Standing there between the two of them, I felt like the new kid in the neighborhood who's just been dared to knock the chip off the shoulder of the biggest boy. I was no swash-buckling hero. When I thought of the possible gun in his pocket pointing at my midsection, my stomach fluttered like a butterfly. I was scared. Scared to death of being shot and killed at the least misstep. It was the first time in my life I'd faced the business end of a gun in earnest. Everything cried out to go along with the situation and act as if I were completely myself. No one would ever blame me myself.

My mouth was dry, and I couldn't stop my heaving chest. Baeder's right hand stayed stubbornly in his pocket. What in hell was I going to do?

Stalling for time, I wet my lips and said, "Say, how about taking me along to the reservation with you? I'd like to see the electronic computer in action."

A SINGING silence ensued, and Baeder's breathing was an audible thing. The moment seemed to stretch out intolerably, like watching a hoop barely roll over a hump.

Baeder's close-set eyes were inscrutable, but I imagined him studying me, gauging me, trying to figure at what point I might suddenly blow up. And that unhappy thought only made my stomach pull itself into a harder knot.

Frank started to say, "Well, I think that would be fine—"

Baeder cut in sharply, "It's against security regulations to allow anybody in the computer rooms."

I could hardly feel my legs as I walked woodenly across the room—anything to shake off the paralyzing fear welding me to the floor. Automatically, I picked up a package of cigarettes on the table under the stand-lamp, and pulled out one. Acutely aware of my turned back, I heard Baeder take two slow steps. When I casually turned my head I saw that he had moved so he wouldn't be in a direct line between us.

This thing was drawn out so tight and fine that I was ready to scream. Surely by now Baeder was realizing I sensed something wrong. When was he going to act?

My moving glance swung back to the coffee table, the electric clock on it, travelled along the cord down to the wall plug. The stand-lamp was plugged into the single outlet with a

two-way that held the clock cord, too. I looked at the clock face. The hands stood almost at 7:30.

My clock dream of this morning! I had arrived at the knife-edge moment of my time-image. From here on it was up to me.

Tensing myself, I suddenly grabbed the clock, yanking it hard. The dual connection with the stand-lamp came out, dousing the only light in the room. At the same moment I ducked to my left and threw the clock at Baeder.

Yet even as I threw it, the guy fired and I heard the shrill voice of death pass close. Then came the thunk of the clock hitting him, and I dove for his legs.

"Look out for his gun!" Frank was shouting somewhere above me.

MY RIGHT hand connected with a pants cuff and I gave a hard jerk. The gun went off again, but this time it was pointed at the ceiling. As Baeder fell, I clambered onto him to keep him flat on the floor, desperately searching for his right pocket. In the mad scuffle I finally located it and pressed the gun in toward his body so he couldn't hit me. Then, trusting to luck, I swung with my right at his face.

Frank got a light on just as my fist connected with Baeder's jaw. It was a beauty. And I took savage pleasure in socking him on the button again. That time he stayed flat.

As I got to my feet, gun in hand, Frank gave me a resounding thwack. "Thank God, you came when you did, Ted. That's the longest fifteen minutes I ever spent in my life."

"I smelled trouble as soon as I walked in. What's Baeder's game anyway?"

Frank looked down at the supine Baeder, shaking his head. "Clever—boy, are they ever clever! This guy's

the inside link with a New York Communist apparatus funnelling atomic and other super secret data through the Iron Curtain. But that's the weakness of their system. Sometimes little guys like him like to brag when they think they're safe, and he spilled a lot."

"What was he after now?" I asked.

"He was after two time-field formulas I've been working on. The ironic part of it is that Baeder's efforts to get them helped me solve

THE END

them. If he hadn't hit me on the back of the head, I'd never have gone through that amazing experience I had on top of the National Pile. That was the key that helped complete my micro-temporal displacement theory."

I told Frank then about my clock dream of the morning. A little shaky yet, I laughed from nervous tension. "Poor Baeder, he never thought when he got up this morning he was going to get hit on the noggin with a time-image!"

THE ROBOT'S ROLE IN TV

By Jon Barry

NO BETTER example of the progress of the robotization of modern machinery can be suggested than the recently inaugurated transcontinental radio and television relay line which links the East and the West. The simple towers of concrete and steel which now have become familiar sights are a miracle of technology: 106 individual robots linked into one large cross-country robot. For these relay stations are unattended and automatic!

The information to be transmitted—it may be hundreds of telephone calls or a half dozen television programs—is sent from one station to another by short-wave ultra-high-frequency microwaves—four thousand megacycles—through horn-shaped antennas which focus the waves as sharply as a searchlight and send them in straight lines directly to the next receiving station. Aside from the miraculous complex circuits which make up the relay towers, the most interesting thing is the way in which they are supplied with power.

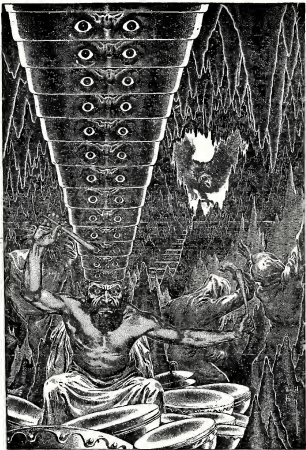
It would be impractical and too expensive to have service crews living within each of the 106 towers and yet, because the setup is a national television hookup, failure cannot be tolerated. To prevent this, a number of techniques are used.

First, all equipment is duplicated and automatically connected, so that, if a tube should blow, immediately another circuit is switched in to take over the load. Eventually crews can replace the defective apparatus at their leisure, since failure of anything is immediately relayed to central

terminals where service crews are available.

It is in the power system that ingenuity is shown, since it is here that failure can occur most easily—for example, a storm might knock down a power line in a remote Western area. So each station operates from a vast set of storage batteries which are kept charged by automatic rectifying equipment powered from the conventional power lines. Should the power line be interrupted, the battery system of course continues supplying power with no apparent interruption. Naturally battery-emergency power of this sort wouldn't last very long, so that, as soon as the power line is broken, an automatic gasoline motor-generator set comes on, warms up for five minutes, and then starts charging the batteries. All the while this cycle is occurring, of course, information is relayed back to a central station so that they can get crews immediately to the station to repair the line. About the only thing that can knock out the robotic relay stations is the failure of the gas generator to start and the consequent running down of the batteries. Such a blend of misfortune is hardly likely, and automatic-generator sets are very reliable.

This constitutes, then, as completely automatic a safe-guarded system as human ingenuity can devise. To make doubly sure, patrolling crews have a periodic maintenance arrangement so that all equipment is examined at regular intervals. Few gadgets in modern civilization are more like robots than this gigantic chain of television repeater stations!



Loree had a weird feeling that she was being watched by a large crowd

MARS INVITES YOU

By Don Wilcox



The Wedge-Headed Zims had four feet and four nostrils. But the Earth girl had two beautiful legs. That made it a nice day

YOU'D BETTER know the Martian word for "kill" if you mean to go tramping around the red planet on a black night.

"Kapash!"

That's what the Big Zim warriors of Mars shout just before they knife you.

There are other words for "kill". The Big Zims' enemies, the Wedge-head Zims—they're the four-footers with ugly stubby faces and four nos-

trils—have their own war cries. But don't depend upon them to give you a warning. They kill you first and do their shouting afterward.

It was "Kapash!" that I heard whispered in the darkness the night I crept down over the mountain toward the Zim river.

"Kapash! Kapash! Goolay vank ga voo!" (Kill! Kill! An' enemy approaches in the black!)

Actually, I wasn't an enemy. I was

an Earthman on an errand, and I considered the Big Zims my friends. But it was plain from the whispers that I had bumped into a party of Big Zim guards, and that was bad. You don't stop to make explanations to big, brawny Martians in the black of night. I began to backtrack.

"Kill! Kill! An enemy..." The whisper passed down the line.

It was the tiny bells I was wearing on my shoes that made them sure I was an enemy. You see, I had taken this precaution against meeting a party of the Wedge-heads in the night, for those muscular little four-footers have a way of decorating their ankles with miniature sleighbells. Wearing such bells would have been just fine across the river, but on this side, it was a deadly error.

I dodged back of a rock, so the approaching guards wouldn't see me silhouetted against the stars. I snatched the tiny bells off my shoes. I placed them on a narrow edge, a slight niche in the rock, about two feet above the ground. Then swiftly and noiselessly I moved backward in the blackness.

I could hear the soft-padded footsteps approaching the rock.

"Careful!" one of the guards whispered, "Spread out."

"He went toward the rock."

"If he runs, kill!"

"Toward the rock. Listen!"

They waited a moment and I held my breath. Crouching, I picked up a handful of earth. They began to whisper again, coming on toward the rock. I was twenty yards away. I threw the handful of dirt into the darkness. It struck the rock with a slight hiss, like sand in the wind. The little bells were struck. They tinkled to the ground.

"This way!" a big Martian Zim cried. "Back of the rock!"

"We have him surrounded."

"Come out! Drop your weapons and come on we'll strip your bones!"

"He's hiding!"

"I don't see him. Is it a cave?"

"He's there. I heard him."

"Get a big stone. If he refuses to walk out we'll stone him!"

I DIDN'T hear any more, for I was moving with silent steps on my way down the mountainside. I had lost my bells and that was unfortunate, but not fatal. I had escaped with no flesh stripped from my bones, and that was as good luck as I could hope for.

Good luck stayed with me until morning. Twice I dodged scouting parties of Wedge-head Zims, whose arrow-shaped heads I could distinguish in the darkness, pointed up like rounded pyramids from their thick shoulders. The Big Zims would be waiting for them farther up on the trail, I knew. Knives would flash and war cries would break the night's stillness. But those skirmishes were not my business. My errand lay ahead, on the Wedge-head side of the Zim river.

Before daylight I breakfasted on a portion of my slender food supply. I slept briefly, but the first blue mists of dawn awakened me. Soon the sunlight was pink on the mountain tops. Somewhere over that western horizon a man from Earth was waiting to be rescued.

The Zim river brought me to a dead stop. I must plan my course before crossing.

"Somewhere along that stream," I said to myself, "I'll find *someone* who will become my guide."

I pictured in my mind a sturdy Wedge-head whose savage face would lose its flush of color at the sight of the little white-handled disintegration pistol I carried. I would point the weapon against his stubby body and say, "Lead me to your capital city. I want to talk to your leader." And then my

way would be clear.

I moved down the river toward the narrows where the purple waters flowed into the sea. The going was rough until I found a river trail just above the water's edge. The stream was in reality an estuary, steep-walled and sharply curved. Navigation would be possible, I observed, only with very small craft.

I glanced back up the stream.

"Ships! Eureka!" What a break! I almost shouted aloud.

I hid myself and watched the primitive little armada of sixty-foot ships glide toward me. Warriors were on deck, carrying on with weird antics, dancing and shouting in rhythm. Four ships moved past me. A fifth and a sixth were yet to come. My brain danced, as lively as those warriors. If I could only capture one dancing savage Wedge-head!

But how?

They acted like drunken men at a festival. If I could be sure they were intoxicated, I could take a long chance. One warrior might not be missed.

It seemed almost providential that there should be a long rope lying along the path, a native rope of Martian grasses. It would do the trick. I slipped along the shadows, forming a lasso in the end of the rope.

Crouching behind a rock, I was so close to the side of the passing ship I could have touched it with a broomstick. This was the fifth ship. I waited for the sixth. The crazy rhythm of the dances echoed through the canyon walls as the craft drew closer.

I SPOTTED my man with care. He was leaning stupidly against the low-rail aft. He was plainly exhausted from the dance. Within the folds of the red captain's hood which he wore over his wedge-shaped head and shoulders, I could see his half-closed eyes.

Through his four nostrils he panted like an animal exhausted from a chase. His half-naked body sagged, but one dangling hand kept slapping the rail in rhythm with the shouts and footbeats.

I waited until he was even with me. I swung the rope. The loop went flying out. But it didn't land over my intended victim. Something back of me gave the rope a sudden jerk that ruined my aim.

Frantically I tried to recover the rope. Something was pulling it away from me. Anyway I was too late, now. The ship moved through the narrow passage and out into the Martian sea.

Cursing my luck, I whirled about. The rope was mysteriously sliding away from me. I jumped for the end, but it jerked out of reach. Someone must be pulling it, leading me into a trap. Warily I dodged back into the shadows to see what was up. Now I could see that the rope's course led around a tree and back into the vertical shafts of rock where I stood.

An arm slipped around my throat and pulled me backward. A hand rose before my eyes. The hand held a black-tipped knife. A girl's voice spoke—in perfect Martian.

"This knife is poison. It will kill."

Death was waiting in the tip of the blade. My eyes turned for a glimpse of my would-be murderer. "Are you sure you want to kill me?"

It might have been my Martian accent. Something made her lower the knife a trifle.

"I shall kill you unless—"

I didn't wait for her to state her terms. I flung her arm backward. Her hand struck the wall of rock. She leaped back to avoid the point of the knife as it fell from her hand. I kicked it across the ground, then seized her by the arms and pulled her out of the shadows into the light.

She gave me a savage fight, flits

and nails. She was wearing a dark blue Wedge-head hood over her head and shoulders. I tried to see her face. Her dark eyes flashed angry fire. She was no Wedge-head, I was sure of that. She was too tall and well formed.

I THREW her to the ground. Then I caught the gleam of her white teeth, though her face was still half concealed within the flaps of the blue hood.

"Now, what was it you wanted?" I demanded, clenching her wrists in my hands.

"Nothing."

"You want to kill me—is that it?"

"No. Let me go."

"You jerked that rope out of my hands, didn't you! You spoiled my chance to capture a Wedge-head. Why? You're no Wedge-head, I can see that. What are you anyway?"

Her eyes stared at me with strange excitement. She made no answer.

"You meant to kill me unless—unless what?"

"Unless you would give me food."

"You want food?"

"I said so."

"Do you have to kill for food? Why not ask?"

"I steal. That is how I live—by stealing."

"Your game may work on the Wedge-heads, but you better think twice before you pick on someone my size. What are you anyway—a Big Zim—or a mixture of—"

I tore off the hood to get a fair look at her face, her hair, her shoulders.

"You're an Earth girl!"

In plain English I repeated my words, and her full red lips twisted into a faint smile. She started to struggle again. I pinned her elbows tight against her sides. Her wide, excited dark eyes were drinking me in. I guessed that she must not have seen an Earth person for a long time. In

spite of her wild nature-girl look she was beautiful—dark-haired, round-cheeked, with a determined chin, a pretty throat, and full breasts that rose and fell with excitement.

Now she spoke in English: "Let me up."

"So you're an Earth girl."

"All right. What if I am?"

"What are you doing here? What's your game?"

"Let me up."

"Oh, no. You might take a notion to kill me."

"Please. You're hurting my arms."

"Robbing and killing is strange business for an Earth girl."

"This is a land of killing. How else can one live?"

"Where's your family?"

"I don't have any."

"I think you're lying. Where do you live?"

I caught my answer from the flick of her eyes toward the shadowy alcove where our fight had begun, and I realized that it might be the entrance to a cave there in the rocky river bank.

"You mean to tell me that you live in there?"

"I live all along the river."

"Who lives with you?"

"No one. Please—"

"So you live entirely alone—here—in this cave?"

"Yes."

I stared down at her. Her dark eyes shone boldly, defiantly. She might kill or lie or hate or love with all the ferocity of a jungle child, I thought. Then I heard a sound from the cave. She heard, too, and the sound startled her.

It was a low groan. It was the voice of a man in pain.

HER BLOODTHIRSTY manner melted completely. At once she was like a different person. I released my grip.

"You and I are both from Earth," she said. "I'm taking a chance. I'm going to confide in you."

Rising, she glanced at the poison-tipped knife lying in the dust, then ignored it. She motioned me to follow her. We moved back through a dark rock-walled passage into a dank-smelling room. A shaft of light from a break in the rock ceiling gave me a view of her home. There on a mat lay the one companion who shared her predatory life—an aged man.

He lay with the stillness of death, one gaunt white hand across his sunken chest. Without shifting the stare of his glazed eyes from the ceiling he asked, in a low, feeble voice, "Who?"

"An Earthman, father."

"Thank... God."

If he could have talked readily, he would surely have unhardened his heavy heart. I placed my hand over his cold fingers and listened to his feebly spoken words. He must die here, he knew. His adventure was over. He and his daughter had been captives of the Wedge-heads, and he had hoped to live to see their cruelties avenged. But now it was over.

"The Big Zims are warring with them now," I said. "And the nations of other planets are watching to see which way the tide will turn."

"But how are you mixed up in it?" the girl asked.

"I've come from the Earth to try to rescue a man by the name of Bennington—B. G. Bennington. You've heard of him?"

"No."

"He was an agent sent by Earth governments to work with the Big Zims. His presence with the Big Zims commanded respect. The Venus nations and the various bands of space brigands will stand back with due respect as long as they believe that the Big Zims have this Earthman on their side. But the Wedge-heads have cap-

tured him. They're holding him." *

"And you mean to rescue this Bennington?"

"That's my job. I need to get him back on the right side of the Zim river before the rumors start running through the skies that he's missing. If the rumors begin to spread about, Venus bands will pounce in, and the Big Zims, with all their progress toward civilization, will be rolled under."

THE OLD man groaned weakly. He murmured to his daughter, "Lorna... You'll tell... him now..."

She understood what he meant. He wanted her to let me know how to enter the capital city of the Wedge-heads.

"What I need is a guide," I explained. "Beyond the river it's all wilderness to me."

"We can tell you how to go," Lorna said. "I'll draw a map for you."

"You don't know of any party I could get to go with me?"

The girl shook her head. "We're entirely alone, father and I. We've been stranded here three years—Earth years. After we escaped the Wedge-heads, we made it across the river. Father could go no further, and this is how we've wound up—like animals..."

"But if the Big Zims knew you were here they would help you to get back. Haven't you tried to get out?"

"We trusted no one. We've chosen to live as outcasts. Please forget that you have seen us. You have your own mission."

"I'll see you again, Lorna," I said before I took my leave. "I promise you I'll come back—soon!"

Through the long day of walking along the Wedge-head trails to the west of the river, I kept thinking of my strange visit.

The instructions they had given me were explicit enough, so that I was

saved many miles of travel.

Toward evening I was forced to go into hiding. Sounds of tinkling bells and chanting voices warned me of the approach of a band of warriors. They were marching, or rather dancing, down toward the steep-banked river, where ships were waiting to take them out to sea.

I made camp back a short distance from the trail, slept lightly with ears sharp for the sounds of wild animals or Wedge-head enemies, and awoke in the night with the light of two moons to help me on my journey.

The parties of Wedge-head warriors I met were small bands, usually groups of twelve, sometimes twenty-four. It was easy enough for me to duck for cover when I heard them coming. They were not on the alert. This was home territory for them, and they hadn't been sobered by any encounters with the enemy as yet. They were all intoxicated, like those first bands I had seen on the ships, with their strange rhythm.

Their chant went, "BEE-gee-gee-gee-gee-gee-gee!"

THE FIRST syllable was always shouted like the beat of a high-pitched drum. The whole phrase was made up of seven beats and a rest. Sometimes they varied it.

"BEE - gee - gee - gee - BEE - gee - gee!"

The following night, hiding not far from one of their camps and not daring to move, I listened to this weird incantation for hours.

"Sing to the power of the devil!" the leader would yell.

Then, "BEE-gee-gee-gee..."

"Shout to the power of the devil!"

"BEE-gee-gee-gee..."

"Fight to the power of the devil!"

"BEE-gee-gee-gee!"

"Die to the power of the devil!"

"BEE-gee-gee-gee!"

It was getting under my skin. I was getting a fever from it. Even when they moved on and I marched ahead in the silence of an empty trail, that thumping, incessant, "BEE-gee-gee-gee!" pounded through my ears. It caught the rhythm of my walking, my breathing, and even my heartbeat.

"March to the power of the devil!" I began to say to myself. Then I would try in vain to throw it all out of my mind.

I wished I had asked Lorna and her father about the devil these savage Wedge-heads all seemed so wrapped up in. It was something one should know. Strange they hadn't mentioned it. How could I be sure I wasn't upsetting some savage taboos, bringing the power of the devil down on my head? Well, my whole plan called for keeping out of sight, and I hoped their devil didn't have too many eyes.

Illness got me down somewhere along the line. I don't know whether it was the food, the water, or the strain of climbing along the trails. The exhilaration of light gravity always tends to make green Earthmen wear themselves out on long marches. Accustomed to an average pace on Earth, they go into high speed on Mars, finding their muscles set free and their weight like thistledown. Then they overdo.

I lost several hours from the fever. My head swam and the rhythms of the Wedges beat through my brain.

I AWOKE to sounds of fighting. Big Zims were floating over in three crude balloon contraptions, and the Wedges succeeded in bringing two of them down. Hand-to-hand clashes made the air ring with the clang of metal.

I wanted to turn back. The whole evil business of trying to get into the capital to rescue a key man was complicated enough without having the

Big Zims pull a premature attack.

It was a dark hour. At best, I was moving ahead blindly. My own life was at stake. Or, if caught, I might be kept a prisoner and tortured. Now, with a small band of Big Zims already floating over for a hit-and-run attack, the whole Wedge-head countryside would be on the alert.

That was part of my deep discouragement. Beyond that, there was this Martian devil. I could see that these Wedges were crazed with *something*.

A dance mania? I wondered. A mass insanity rooted in a weird rhythm? A wild fever that took possession of the whole body and made a man a demon?

It was the nameless fear of this undefinable *something* that gnawed at me constantly.

"BEE-gee-gee-gee-gee-gee!"

I beld my ears. I looked back at the eastward slopes, over the trails I had put behind me. I looked to the west, where the Wedge-head capital city showed against the sky.

And then I broke off thinking and ran!

The skirmish between Wedges and Big Zims was coming my way. The outnumbered Zims were racing for cover. One fine husky Big was too slow clambering up over a heap of rocks. His footing gave way, he slid, and three vicious Wedge-heads were on him. They sank their knives in his back, and his voice gave a rattling cry and went still. Then, to the rhythm of "BEE-gee-gee!" they sliced at him with mad glee.

They had seen me, and I knew what was coming as soon as they finished their orgy of cruelty over the fallen Big.

I knew, too, as I ran with long strides, why the Big Zims had risked this early attack. It was a delaying action. Even though they had only a

few crude balloons for such risky business as this, they were rushing into an attack to keep the Wedges from sending out any more ships.

WELL, I was in it now, caught by a chance skirmish that had descended in my path. I whirled about, quite in the open, and faced the three Wedge-heads who were racing after me.

My little white-handled weapon cut a line of blue fire through the air. The closest of the three Wedges lost the middle section of his body as the disintegration ray caught him. He fell to the ground with a thump.

A knife whizzed through the air at me. The spray of blue caught it and it vanished into nothing. The red-hooded warrior who threw it stumbled back and ducked for the protection of a ravine. The tip of his red hood bobbed down.

Warrior number three was slow to get the idea. I skimmed the blade of his knife, upraised. He drew his hand down slowly, discovering that he held only the handle. Still he came on, shouting the shout of the devil.

I blasted the ground in front of his feet. Dirt and rock melted into nothing; and the charging warrior sprawled headlong into a four-foot hole. Pow! The dust flew, and the shouts turned into a sick gurgle.

I holstered my weapon and pounced on the warrior with my bare hands. He sagged back from the impact of the first square blow I delivered to his pudgy jaw. Then I had a brief moment of peace and quiet—just what I needed to collect a few souvenirs.

I took his packet of food, his bells from his shoes, and the black wedge-shaped hood he wore over his head and shoulders. I adorned myself with these articles of clothing.

For half a second, while fitting the covering over my head, I was off my

guard. I heard a swishing noise, and turned to see a wide, bright steel sword upraised. I staggered back, but I was too late. Nothing would save—

But something did! Someone who was very clever with a rope had thrown a loop over my would-be murderer's head. The rope jerked back just in time to send the sword glancing over the tip of my black hood. In that split second my integration pistol came into play again.

The sword melted away. Its owner blundered into the path of my ray and fell apart; with two thumps his bisected body struck the ground. Then I looked around to see who had saved my life and Lorna, half crying, came running into my arms.

IF I HAD forgotten, for the moment, that there were still several blood-thirsty Wedges in the immediate vicinity, Lorna hadn't.

"You really walked into it!" she said. "Come on, this way!"

"What are you doing here?"

"I've been trying to catch up with you for miles." We ran for several minutes to reach a point of safety around the shoulder of the mountain. "You would have to get mixed up with the son of the chieftan!"

"The one I killed?"

"The one you didn't kill. The one wearing the red hood. He was eyeing you, knowing you for an Earthman. After you destroyed his knife in the air he held back, watching you."

"Then I should go back and kill him."

I looked back toward the trail, but Lorna pleaded with me not to go. They were everywhere back there, she said. They could dance out of rocks without warning. Their lust for blood was running high.

"I never saw them behave so," she said. "Even in fighting they were

never this way."

"It's their devil."

"Devil?"

"You don't know about *BEE-gee-gee-gee*?"

She gave me a strange look. "I thought I knew all of their superstitions. But this must have come since I was here."

"Haven't you noticed how they dance? It's a mania. Remember the dance manias back in history? Something like that has seized them. The way they're going, they'll win their war—"

"Don't say it!"

"They'll win by their very madness. They're demons. I never saw anything like it. They don't rest, they don't sleep. Even while they eat they carry on with all their frenzied, insane *BEE-gee-gee-gee*!"

"Please, don't say they'll win. If you can succeed in your rescue, then the Earth's support of the Big Zims will surely frighten them away."

I FELT that cold wave of doubt again, and my eyes must have expressed the skepticism I couldn't help feeling. "You do have faith that I'll rescue Bennington, don't you?"

"Don't you?"

"I don't know."

"What's happened? Are you faltering? Are you afraid?"

"I don't know. It's this uncanny power—this something I can't understand—this something they're getting from their devil—"

"So you believe in such things! Devils—and magic!" She was shaming me with her eyes.

"For myself I don't believe it. But look what it's doing to them. You can't deny what you see."

I saw the look of terror come into her eyes then, and I felt ashamed of what I had said. I caught her arms and drew her close.

"I'm sorry," I said. "Forget it. Have I said 'thank' you yet? Thank you for saving my life, young lady!"

"I was waiting for that." She looked at me searchingly.

"You haven't answered my question, however. What are you doing here?"

"I'm alone now. So I came to you."

I held her very close and kissed her tenderly. I understood well enough what she meant. There wasn't much I could say, for I had known when I said good-by to her father that the end was very near.

She had buried him with her own hands, she said. She had not marked the grave. It would never be disturbed by people who came and went along the river.

Cautiously we wended our way toward the stone walls of the city. We moved to the south, toward the cliff above the sea. We made camp above the trail that zigzagged down the steep embankment to the waters. The pounding of the sea quieted while we sat there, and for the moment all seemed serene.

"And so you followed me, Lorna," I said, watching her intently.

"I came to you," she said simply, "because I liked you."

I MURMURED uncomfortably. The fact was, she hadn't had much Earth companionship in the past years. If she could get back to the Earth soon, she would find her country full of people like me.

"Like you?" she said, lifting her eyes. "I doubt it."

"They look like me, talk like me, they're even named like me. Smith. Did you ever hear a more ordinary name? William Smith. There are thousands of people with my name."

"It's a nice name."

"It's not very original. You step up to one of these Wedge-head Martians and tell him your name is

Smith, and what would he think?"

"He'd think I was your wife," Lorna said.

"Now just a minute—"

"But I am your wife. I've come to you to be yours."

"Lorna. You don't know what you're saying. You've been away from people for a long time."

"Does that mean I don't know what love is? In these years with my father I have learned what it means to serve and to be devoted. Now my father is gone. Someone must need me now, someone I can serve and help—"

"When you get back to Earth, you'll find many—"

"Have you a wife already?"

"No."

"Girl-friends, then?"

"Sure. At least seven. One for every day of the week."

"I'll be your girl-friend for every day. Only I want to be more. I want to love you and be your wife. Let me be your wife now. Say that I am, and then I will serve you and help you and love you forever. Yes, Mr. William Smith?"

I tried to take my eyes away from hers but I couldn't, she was so beautiful, so completely fascinating, so deeply sincere.

"Lorna, it's important that I rescue Bennington as soon as possible—if he's still alive. I confess I'm doubtful, with these Wedge-heads on such a killing spree. But I'm asking you to be my guide and stay with me until this job is finished. Then I'll pay you well, and you'll have money enough to get back to Earth. Do you understand?"

For a long moment she said nothing, looking down at the ground. Then she slipped her warm hand into mine and her fingers locked tightly into my grip.

"Mr. William Smith," she said, "anyway, you say."

After resting, we marched on along the edge of the cliff. If there had been ships below, we might easily have been seen. But the sea, at this point, struck squarely against a perpendicular wall of more than a hundred feet, offering no safety for sea-going craft. Two miles up the coast a few tiny fishing boats could be seen, and nearer the city, troops and other pedestrians were visible along the trails. But at this elevation, well outside the city's walls, the world was all ours. In comparative safety, we trudged toward the spot where Lorna believed we would find our secret entrance.

"It's an opening in this cliff below us," I said, recalling the earlier instructions she and her father had given me.

"We'll be safer using the rope."

"Can we be sure the Wedge-heads never use this entrance?"

"Why should they? They have gates through the city walls, and they know the maze of tunnels that lead in and out. Besides, this opening in the cliff leads into a big room under the city—a forbidden room. Father and I discovered it by accident when we were making our escape."

"And you think it won't be occupied?"

"Only by sea vultures."

"Then why is it forbidden?"

"There are superstitions about the vultures. They're supposed to be sacred. The Wedges believe them to be all-wise, but of course a vulture never reveals his knowledge. Here, we can tie one end of the rope to this clump of trees."

The other end of the rope dangled down past the dark slit in the side of the cliff. We waited for a few moments, watching in all directions to make sure no one had followed us. The slightest tinge of red among the vegetation would have caught my

eyes; I was on the alert for sight of the chieftan's son with the red hood. But apparently the attack of three Big Zim balloons had prevented our being followed. Whatever peril might await us at the end of our dangling rope, we were ready to take our chances.

I crawled downward, hand after hand, and swung into the mouth of the cavern, fifty or sixty feet directly above the level of the water. Lorna followed, and I helped her in. This was it, the big, gloomy, forbidden room, under the city.

IT WAS deathly silent, at first. Our own footsteps made ominous echoes. Through the dim light we made out the contours of the room. From our angle it was a veritable forest of stalactites and stalagmites, irregular walls and heaps of jagged stones. There was an open distance somewhere beyond the stumps of rock that surrounded us, and we could see dim light filtering through from a rough-hewn stairway across that distance.

"They must come into this place over yonder. That should be our way up into the city," I said.

We moved cautiously. At first we thought the whole cavern to be unoccupied, but soon we got the feeling that other persons might be moving along among these shadowy hiding places. We avoided the open center of the room, but now our eyes adjusted to the light, and the great ornament suspended from the middle of the ceiling took shape.

"It looks like a throne underneath," I whispered. "Or is it an altar for sacrifices?"

"I've never seen it before," Lorna said.

"It must have been there when you and your father came through this passage. Overhead there's a giant stalactite pointing down to the chief-

tan's throne. See it?"

"It glistens like glass. It's not a stalactite. It must have been built for some kind of ceremony."

The imitation stalactite, if such it was, hung down from the cavern ceiling like a twenty-foot chandelier, pointing down, cone-shaped. It was perfectly carved. It glistened like a mirror, or rather like a series of circular mirrors, one band above the other, each of wider diameter than the one before.

Beneath the point of this great ceiling ornament there was a seat within a cluster of circular objects, the nature of which we could not at once determine.

"It looks like a big bouquet around the chieftan's seat," I observed.

"A bouquet of what? Round stones? Is it a giant game of checkers?"

"Or are they tin pans?"

"I'm sure that wasn't here before."

"Then we'll probably never know what it means. If we can find our man, we'll come back over this trail too fast to ask questions."

WE STOPPED to make sure we knew how to thread our way back. The hole in the cliff by which we had entered now looked like a jagged window at the end of a dark room.

We moved on to where the long circling stairway came into fuller view. The steps were shallow and wide, leading upward gradually toward the rectangle of daylight perhaps forty yards outward from the cavern.

"There's our way to the city!"

"And it's blocked!"

At the upper end of the passageway four guards stood silhouetted against the light of the out-of-doors.

"Now what?" Lorna asked.

"Is that the only way into this

place, or would there be others?"

"There are probably tunnels, if we could find them."

"How did you and your father find your way into this place? By that stairway?"

"Oh, no. There have always been guards there. They're bound to kill anyone who tries to break into this forbidden sanctum. No, father and I found our way in by accident—by some tunnelled passageway—"

"Which must have been connected with the quarters where you were kept prisoner."

"I suppose so."

"Then that'll be our way to Mr. B. G. Bennington, if the poor guy is still alive. Keep to the deep shadows, Lorna, and look for an opening."

We knew we were taking a deadly risk to toss pebbles, but soon that's what we were doing. Exploring every patch of blackness that might lead off from the room, we would toss small stones and listen to see whether they would strike solid walls.

Then we would stop and wait in silence to make sure unseen prowlers were not on our trails.

"Listen. Something's pounding."

"I heard it too."

It came again, a deep, heavy thud like a giant's sledge hammer striking the rocks somewhere under the cavern floor.

Thud! A long moment of silence. Thud! Another silence. Thunnng! It was growing stronger, more like a boom.

"It seems to come from the window in the cliff where we entered," Lorna said.

"Of course. It's only the sea."

WE WENT on with our futile search. The sound of the sea grew stronger. Its boom, echoing through the cavern, made us bolder.

There was less danger that we would be heard. But time was passing and we had discovered no tunnel. We stopped again within sight of those four guards, standing stiffly at the upper end of the incline. The daylight back of them was waning. I took my pistol from its holster and weighed it in my hand.

Lorna touched my arm. "Be careful, Mr. William Smith."

"If you stay back here, you'll be safe."

"What are you going to do?"

"If I had just one of those boys alone for five minutes of questioning—"

"But the other three—do mean to kill them?"

"Can you think of a better way?"

"If you start up the stairs they'll hear you. They'll cry a warning to the whole city. Perhaps if you'd wait till dark—"

"Stand back, Lorna. I'm going to throw a big stone up those steps. That might bring one guard down. It won't bring all four."

I threw a stone. It struck with a good clatter, no doubt, but the sound happened to be swallowed up by the boom of the sea which sounded at the same instant. I started to pick up another stone when Lorna said, "Wait!" Her whisper was tense.

"What is it?"

"Someone—over there. I saw a shadowy form moving."

We drew back, watching the vague shadows until our eyes swam. I began to think it had all been an optical illusion when suddenly—

The giant impact of the sea waves against the cliff. But this time there was something more—the simultaneous beat of a drum.

Louder. Loud and close. We looked toward the center of the room. Dim though the light was, we could see

that someone sat in the seat which we had called the chieftan's throne. The big cone-like object that hung from the ceiling was directly over his head. In fact, the top of his head seemed to be enclosed in the open point of the cone, so that the whole glistening object was like an immense hat that fitted down over his forehead and spread upward, wider and wider, all the way to the ceiling.

THE SEA noises continued with the regularity of a slowly striking clock. The arms of the man occupying the "chieftan's seat" struck down at the array of drums in time with each beat. Another noise was added, a flapping sound.

"There's something in the window," Lorna whispered.

Looking back toward that jagged opening, I saw that a sea vulture had perched itself there, silhouetted in the path of light. Each boom of the sea threw a spray of water upward, and the huge bird shook its wings with a rhythmic flap.

I can't say how or when the strange emotions induced by these sounds—that of the sea and the flap of the vulture's wings—began to take possession of us. We crouched in the darkness, our hands locked together, my arm close around Lorna's trembling body. Our eyes tried to watch in all directions at once. The rhythm was growing stronger, a trifle faster. The boom of the sea was rising in volume and tempo, and now it seemed echoes were coming back from the farthest ends of the cavern in time with the beat.

"The stairs!" Lorna cried under her breath. "Look!"

Warriors were moving down in an orderly procession. Guards shouted at them. The shouts, far from breaking the rhythmic beat, only added to it. Halfway down the long incline, the

marching soldiers began to bend and twist and sway. Their feet keeping exact time, they allowed their bodies to give way to the weird rhythmic impulses that permeated the whole underground room. Their officers were encouraging them to shout and dance. Before the first of the procession reached the foot of the long stairs, a blur of lights began to come on gradually all across the center of the room.

The drummer's arms flailed the air with drum sticks, adding catch-beats to the regular rhythmic thump. And then the warriors picked up the chant.

"BEE-gee-gee-gee-gee-gee-gee!"

Their shouting seemed to bring the lights on brighter and brighter, so that the face of the drummer appeared in all its mad glory. The tense lines of the mouth, twisting with every beat, showed rows of white teeth clenched tight. The whiskered face was a nightmare of tension, starved and angry. But the eyes!

The reflections of those two deep-set, fiery-mad eyes reflected all the way up, from the point of the overhead cone to the ceiling. Each mirror-smooth circle, larger and larger and larger all the way up to the ceiling, showed a single pair of mad eyes, larger and larger and larger!

Eyes above eyes! Scores of mad eyes glittering their madness over the room. The beat of the sea, the flap of the wings, the thump of the drums, the thud of warriors' feet, the wild cry of voices—and the flash of a hundred pairs of mad eyes—larger and larger and larger—all in rhythm!

"Sing to the power of the devil!" a leader cried.

And the rhythm responded, a hurricane of voices.

"Shout to the power of the devil! Fight to the power of the devil! Kill

to the power of the devil!"

"It's very strange," Lorna, swaying in my arms, managed to say against all the uproar. "The devil, beating those drums, doesn't have four nostrils. He has only two."

"BEE-gee-gee-gee-gee-gee-gee!!!"

"I'd know him anywhere," I told her against the clamor. "He's B. G. Bennington, the man we've come to rescue."

I DON'T know how long the orgy of rhythm lasted. When such incessant sounds beat into your brain for hours, they don't cease all at once. The winds may change abruptly and the boom of the sea may quickly end. The ugly sea vulture, flapping the spray off his wings, may suddenly fly away. The drums may stop, and the shouting, dancing warriors may disappear up the stairs, and the shouting may fade. The lights may melt away and a hundred pairs of eyes, flashing their madness at you, may be lost in the darkness. But the rhythm goes right on, for hours after that, roaring kickeningly through your head until you reel from it.

We were in each other's arms, Lorna and I. We stared at each other vacantly. We had danced, too. That same insane dance that had seized the warriors had taken possession of us too, and now, exhausted and sick from it all, we were ashamed.

"We've got to come back to our senses, Lorna."

"Yes."

"We let that mania take possession of us."

"Yes, I know."

"But it's all quiet again now."

"It's still roaring."

"It's all quiet. The sea has stopped. That damned vulture flapped through this cavern as wild as any Wedge-head warrior, but it's flown away

now. Do you remember what we came here for?"

"We were going to wait for dark and get those guards out of the way."

"But the darkness has come and gone! And we've found Bennington. We won't have to pass through the guards. We can go back through the window."

Lorna sat bolt upright. "Yes? Where is he?"

"Somewhere in this room. That much I remember. At the end, he walked away in a daze. No one else was here, then, except—"

"Except?"

"The Wedge-head with the red hood—the chieftan's son."

"Oh!" Lorna's eyes widened with fear. "Did he see us?"

"He tried to dance with you," I said. The awful scene crowded back into my dizzy mind. "I had to fight him off. I threatened him with my gun. If he hadn't been so completely intoxicated with the dance rhythm, he'd have—"

"Yes, I'm beginning to remember. My mind is clearing. His mind will clear, too!"

"He'll be back all right."

We were suddenly on our feet, aware that our minutes were numbered. We hurried through the semi-darkness, searching the deep shadows for the Earthman whom the Wedge-heads called "*Bee-gee*."

WE FOUND him lying on a crude bed only a few yards from the window. That was good. If we could make him understand who we were and what we had come for, our escape could be achieved in a few minutes. It would have to be, or not at all. I leaned out the jagged opening above the cliff and saw that our rope was still hanging. I tested it, then

hurried back to the bedside of B. G. Bennington.

"Wake up! Wake up!" I tried to shake him out of his stupor. He was dead to the world. "Wake up, Bennington!"

Lorna scooped up handfuls of water from a little pool that had been tossed in by the sea waves. She dashed it over his face. He tried to turn away.

As long as I called to him by name, he made no response. But when I began to call, "*Bee-gee*!" he slowly opened his eyes.

"*Bee-gee*, we've come to take you back. You don't belong here. You're a prisoner here. Get up on your feet!" He rose up on one elbow, staring at me. "I don't know you."

"I'm here from Earth. They've sent me here to bring you back. The government needs you."

"I don't know you."

"My name is William Smith, if that makes any difference. You used to know me. I helped you make out your reports. We played golf together. I packed your luggage when you took the space ship. Get up. Get up. Quick!"

"I don't know you."

"Get some more water, Lorna. He's too groggy to know—" Then, acting on an inspiration, I drew some bills out of my pocket. "Look, *Bee-gee*. Do you remember what this is? American money. And this—this is a gun."

"I don't know you. I only want to sleep."

I pulled him to his feet and shook him. His eyes were glazed with madness. If I relaxed my grip on him he sagged.

"He's a lump of lead," Lorna said. "Can we carry him?"

"Listen!"

"They're coming."

"We've got to get him out of here. We may never have another chance."

Can you climb the rope?"

"Of course."

"And lift his weight?"

"Certainly."

"Then go ahead. Get yourself up. Then I'll tie the rope around his waist and you pull him up. I can stall the mob off that long."

"And then—"

"The rope will still be there for me," I said.

"They'll never let you make it. They'll knife you the instant you crawl out. You've got to shoot them, promise me you'll shoot them."

"Get going!" I snapped.

A HQST of footsteps were coming down those stairs. There was the same rhythm, and now the bells on the shoes could be heard. With no drums or sea booming to swallow up the sounds, I could catch the full effect of the maniacal chanting. There was a note of jeering, an exultant note of mad men closing in for a kill.

Lorna climbed out to the rope. By the time I had lifted the dazed and protesting Bennington to the opening, she was already at the top of the cliff, waiting.

He was so weightless against my strength and the lightness of gravity, that I had little trouble swinging the loose end of the rope around his waist.

"We're doing this for you, Bennington—*Bee-gee!* We're your friends. We're helping you, do you understand? Now, relax. Don't do a thing. Easy!"

A straight swift upward pull would have done the trick at the moment—if B. G. Bennington hadn't taken a stubborn notion to sink his fingers into a niche in the wall and hold on for dear life.

His fingers, strong as steel from endless hours of beating the devil's

drums, would not let go. Lorna hadn't a chance against a grip like that.

My first impulse was to use the disintegration gun against that slice of wall. It couldn't be done. I tried to find a quick angle, but there was Bennington, kicking and struggling against the wall. I couldn't take the chance.

I would have crawled out and somehow fought him away from the wall if I had thought the rope would hold the two of us. But by that time the marching footsteps, with their clinking chorus of bells, were coming too close to be ignored. I moved back from the window and turned to face the coming attack.

I REACHED—not for my gun, but for a pair of bells I had once wrapped and buried in my pockets.

I hurled two stones across the open space of the room, and while they clattered and echoed I hurled the bells in the same direction. The noises had at least a momentary effect of changing the direction of the approaching squad.

"This way!" I heard them shout. And the column turned.

Out of my clothing I drew the black Wedge-head hood I had carried since a previous, hand-to-hand encounter. I slipped it on hastily, then made tracks for the center of the room.

I hurled rocks as I went, making the cavern echo with crashes from several directions. The squad went into a moment of confusion. Then someone spied me, a shadow, moving across the open floor, and a series of shouts filled the room.

I expected the knives to fly on the instant. The only thing that prevented was my head-dress. The black hood made them think they were seeing an-

other Wedge-head. That quick moment of delay gave me time to reach my destination in the center of the room—the drums.

I leaped into the seat and seized the sticks.

Thump-thump-thump-thump-thump-thump-thump!

The mad rhythm was still roaring in my head. How could I possibly fail to reproduce it convincingly on those drumheads? I beat down with all the intensity of a mad Martian devil—and I started the insane dance all over again.

Out around the trails along the walls of the big room the warriors began to dance. The chieftan's son in the red hood shouted orders at them to find me. Find me, but leave for him the pleasure of beating a rhythm through my belly with his knife.

The lights above my head began to come on again—how or why I don't know, but the beating of the drums and the chanting of the warriors seemed to bring them on. Then suddenly the wild-eyed chieftan's son was looking across at my face, with the hundred pairs of my eyes towering up the cone.

"That's not Bee-gee!"

"Not Bee-gee!" "Not Bee-Ge!"
"Not Bee-gee!"

The wild wail filled the room. Above it all, the cry of the chieftan's son announced that I was the victim he was after. Someone hurled a knife. I seized a drum and used it as a shield. The knife struck through both heads and sliced into my hand.

Other knives came at me. I buried back drumsticks, drums and cymbals.

The mob moved up on me, tramping again in beat, marching toward me for the kill.

I BOLTED out of my drummer's seat and moved backward. My

hand held the little white-handled disintegration pistol now. A stream of red blood ran down from the handle. The Wedge-heads advanced, seeming to know that I could not cut them all down before they would charge in on me.

They came straight over the toppled drums, right across the throne where I had sat a moment before. With clubs, rocks, and knives, they moved up on me.

Zing! My disintegration gun sent a pencil line of blue fire upward. The arc whipped high above their heads. It cut through the top of the cone of reflectors that hung from the ceiling. The massive ornament fell.

The room was black. The thunder of the crash echoed through it. I swept it twice with the fine line of blue fire and then I darted. Knives whizzed past me. But by the time I reached the jagged block of light that opened onto the cliff, all the knives must have been thrown. I fairly plunged out through the opening, clung to the rock wall, and looked up to see whether Lorna had succeeded in lifting her burden to the summit.

"Is he there?" I shouted up at her.

"No! The bird!" She was pointing down.

I looked below, and what I saw was the wide wings of the big sea vulture, flapping like the fan of a broken windmill in a storm. The vulture's talons were all tangled up in the rope. Bennington, still tied, was being carried off.

The bird started back toward the break in the wall, then seeing me, changed its course seaward. In the fury of the swinging about, however, its dangling burden, Bennington, was stuck against the cliff wall. I wondered whether he was alive or dead.

As the bird struck outward, once again I chanced the disintegration

pistol. I fired, and the blue line of disintegration cut the rope. Bennington went down into the sea.

Then, before I had time to hesitate, I dived. I was on my way down.

I cut the water lightly. I swam a few yards out and overtook Bennington. As I slipped my arm out to catch him, I glanced back at the cliff.

THE SLENDER form of Lorna was poised there. In an instant she was plunging down through the air as gracefully as a bird in flight. She struck the water perfectly, was lost from sight for a moment, then came bobbing up, swimming hand over hand toward me.

"What did you mean by that?" I demanded. "You could have broken your neck, you know."

"Do you think I would let you swim back with him by yourself?" she retorted. "We may have to swim for miles before we're safely away."

And miles it was, but our landing was eventually safe, with a sand bar and a friendly Big Zim party to take us in.

To our surprise, Bennington, after we shook the water out of him and revived him with coffee, began to talk like a sane man.

"There's much I don't remember," he said. "You are speaking of a Martian devil as if I should have known him. I don't recall any such creature."

"It was you!" Lorna cried exultantly. "You and your drums. You gave them the power that brought on this whole attack."

"I—I—"

"You do remember beating on the drums, don't you?"

"Drums?" Bennington cocked his head. "Why, once when I was a boy I had a great desire to play the

drums. I even practiced a little, and I had wonderful visions of building a special stage—lights—drums—dancing—but my father talked me out of that foolishness. He was sure I would never make a career of it. No, I don't recall any drums while I was their prisoner. You see, I was thrown into a dark room, and I went mad from the pounding of the sea. I fought to get out and I suffered a severe bump." He rubbed his head. "Here—right where this swelling is."

"That's bump number two," I said, "and you can be thankful that vulture gave it to you. It brought you back to your senses."

Lorna said wistfully, "The vultures are supposed to possess all knowledge; that's what the Wedge-heads believe. I wonder what they'll think now, with their devil-power gone."

I noticed that Bennington, amid all this talk, was casting interested glances in the direction of Lorna, and presently he said to me, "I'm remembering many things from the past again, but who is that very attractive young lady?"

"That attractive young lady," I said, loud enough for her to hear, "happens to be my wife."

Lorna's eyes caught mine. "Mr. William Smith, did I hear you correctly?"

"I hope so."

"And just when did the wedding take place?"

"Just as soon as possible. But from the moment you came to me in the thick of that fight with the chieftan's son, I've known—"

"I repeat," B. G. Bennington said, smiling at us, "she's a very attractive young lady. And please believe me, it's not the devil speaking."

THE END

READER'S PAGE

LETTER OF THE MONTH

Dear LES:

I just finished a letter to your companion mag, AMAZING STORIES, and thought I'd write to FA too. They are my first efforts...at writing to any mag, so I surely hope they will be printed.

Here are my ratings on the April ish: Cover: GAGH! I don't care for any of Mr. Summers' covers except the May painting; it's pretty good.

(1) "The Unfinished Equation"—Arnette—Excellent. I have always enjoyed this type of story, and Mr. Arnette is an excellent writer.

(2) "A More Potent Weapon"—Phillips—Almost rated this one first. I'm partial to Mr. Phillips' writing; it has something about it that is completely different.

(3) "The Jack Of Planets"—Fairman. Very good.

(4) "The Green Cat"—Deegan. Very interesting. Good writer.

(5) "The Chase"—Jarvis. A little bit morbid, but written in an interesting fashion. First story I've read of that type. (Which isn't surprising, when you consider that I wasn't really bitten by the bug until October of 1951.)

Letters:
"Sig" Torgeson: I'm 15, too. I'm afraid I disagree with you. I think FA is every bit as good as AS. They're tops, both of them. I don't particularly care for any of the other mags except TWO COMPLETE SCIENCE-ADVENTURE BOOKS, FANTASTIC STORY and IMAGINATION.

Artine Gingold: I like you for some reason, and I don't even know you! Maybe it's the way you wrote your letter. I agree with you except that FA and AS, in that order, are my favorites.

R. D. McNamara: You'd be surprised how man might revert after an atomic war.

Mrs. Coulter: I have much the same trouble at my house. I'll be able to fight them better knowing there's someone in the same predicament.

Now for the May ish:

Stories:
(1) "Who Flew Their Chains"—Archette. I like this story very much, especially the ending. Superb! It's the only one like it that I've ever read.

(2) "The Soul Snatchers." For real story and good writing, I suppose this one really ought to be first. One of the best of novels I've ever read. How about a really long novel just once? Maybe 60,000 words?

(3) "A Star Has Fallen"—Fletcher. Very, very interesting. I like Fletcher.

(4) "Strictly Formal"—Vance. Definitely one of his poorer efforts.

(5) "Let's Have A Little Reverence"—Fairman. You want my honest opinion? Uuugghh! Usually I like Fairman, but this thing stinks.

Letters:
R. D. McNamara: I agree with you thoroughly about BEMs.

D. Reynolds: You're right, Leo Summers—not for my money either.

I have a question for you, Les. Why doesn't anyone like "What's On Your Mind"? I personally thought it was the best story in the mag.

H. Meckowitz: Very interesting letter.

B. Prag: Feuds? The sooner the better!

Jim Harmon: Best letter I've read.

Donald Honan
281 Harcourt
Long Beach 5, California

IS THERE A DOCTOR IN THE HOUSE?

Dear LES:

I'm worried sick, almost I need help and reassurance. Here's the problem that's working on my nerves—and mind.

In the March 1952 issue of IF Howard Browne had the lead novel; in the May issue of FANTASTIC ADVENTURES he had the lead novel. He will again have the lead novel in the July or August FA.

Knowing that Howard Browne is both Lee Francis and Lawrence Chandler, and knowing that lead stories take time, I'm worried that Howard is either resigning or being replaced as editor of AS, FA, and F. Please say it ain't so. I'd hate to see that happen. Maybe he's got all this extra time now because he isn't writing any more Paul Pine stories under his John Evans pen name, huh?

Anyway, I think it was well worth waiting two years and five months for another story by Lee Francis. "The Soul Stealers" was very good. But let's not have to wait that long again. Let's have more of Mr. Francis more often.

"Let's Have A Little Reverence"—Fairman's done it again; with this guy it's beginning to look like a habit. More—but definitely.

The two short stories were all right but, of course, not much room for development.

"A Star Has Fallen"—I most certainly hope that John Fletcher isn't a pen name. His work is so good—and fresh. Both of his stories have ranked either in first or second place (AS and FA, respectively.)

Your editorial was good; just the kind I like.

Letters—and my comments:

Robert Dennis McNamara—That's quite an idea you have there about BEMs, and you're so right, too. I'm glad to see that you didn't use the Sarge Saturna type of letter.

D.A. Sadek—Agree with you on trimmed edges. What was wrong with "A Child Is Missing"? That was a darn good piece. Read it over again and see. No, Name Withheld was entirely right. See further in my letter. If you want good covers and illus, then run right out and get FANTASTIC right away. (By the time you read this, if you do, you'll be able to get the Fall issue.)

It seems that none of the fens ever thank you for printing their letters. Maybe they're so used to it. Anyway, thank you for printing mine. You see, the May issue of STARTLING STORIES had one of mine too. Name Withheld, my apologies. You were right about Stephen Marlowe being Milt Lesser. I found out about it when I was talking to Steve Taekas at Stephen's Book Service, and he said that Milt had told him personally.

Les, I wish you'd print this so NW will know that I know the error of my ways.

The cover and illus were good, with the illo by Paul Lundy being the best. Who is this boy? Is he taking Dorset's place?

Henry Moskowitz
Three Bridges
New Jersey

Be sure to watch for the new Paul Pine mystery called "Hole for Hire" coming out very soon. Profitab, isn't he—our editor.LES

AN UNPUBLISHED H. RIDER HAGGARD

Dear Ed:

Notice to all H. Rider Haggard fans! There is, in the Library of Congress, in Washington, D. C., one never-published, "for copyright print" of a Haggard story he called "Lady of the Heavens". Now, if all of you who would like to see this tale published, and would buy a copy if it were published, will write me a 2c postal card saying so, I will forward all cards to a publisher I am in communication with regarding this story. Perhaps our combined efforts may persuade him more easily.

Mrs. Bethel Heller
1841 1/2 Tolton Avenue
Corona, California

HE LIKES ROG

Dear Ed:

My comments on your April issue: "The Jack of Planets": I liked the story. Probably be a lot of people who don't. Just something about it that attracted me to it. The art wasn't very good.

"The Unfinished Equation": Not as good as the first, but still good reading. Art was okay for this one.

"The Chase" was the worst story of the ish. Funny—it had the best artwork.

"The Green Cat" was a fair story. The artwork was good.

"A Mose Potent Weapon" was the best story in the ish. Rog is one of my favorite writers. Could you get a novel by him such as "Worlds of If", or "These Are My Children"? He does a great job of a story of any length, though. Does anyone know how I could get a copy of his "So Shall Ye Reap"? I'm not sure what mag it was in, but I'd love to get it.

The cover was pretty good. What happened? No naked girl.

Baell Gullay
219 Jefferson Street
Warren, Pennsylvania

Well, there's always May, June, July and August covers.

Rog Phillips' first hard-cover book, "Frontier in the Sky", goes on sale very soon.Ed.

THE MANAGING ED SAYS "THANK YOU"

Dear Ed:

I say, I just gave your April printing a bit of a go and I am pleased no end. Devilishly fine bit of work. Capital, old boy, capital! Really top-drawer and all that. (As you can see, Sir William P. McGivern's "Man Who Bought Tomorrow" made a hit with me. I enjoyed it immensely.)

To be a trifle serious for a moment, I want to say how much I enjoyed "Reggie" and his pals. I chuckled from start to finish. What a wonderful, whimsical guy he is. I would certainly like to see more of him (electric trains and all). He is such an understanding chap he should be good for more stories, don't you think? You do have McGivern ball-and-chained for more, don't you?

By the way—meant to mention this in my last letter—I was a little surprised to see that your Managing Editor, L.E. Shaffer, is not a him—I mean a he—ah—him's a her! What I'm trying to say is "Wow"! Madam Shaffer is a mighty fetchin' female.

William Wesley Miller
UR-1 N. A. S.
Patuxent River, Maryland

Bill McGivern is visiting in the office just as we write this. We've just put the final lock on the ball-and-chain, and he's promised to start another Reggie yarn tonight.Ed.

LOVEGRAFT FANS—NOTE!

Dear LES:

I hope you'll overlook my silly mistake about FA going digest-size. I'm sure that FANTASTIC will be an immediate sellout; with names like Bradbury and Asimov, how can the mag go wrong? I already have my copies reserved at the newsstand.

I'd like to notify Lovecraft fans that I'm selling the book "Best Supernatural Stories of H. P. Lovecraft" for \$1.00. There are 14 of his best short stories in it.

Good luck to you on your new magazine conflict soon! What you say is absolutely FANTASTIC.

Maurice Lubin
125 Sherman Street
Portland, Maine

Thanks, Ed

-ARE THE EDITORS CONFLICTING?

Dear LES:

Have just finished the May 1962 issue of FA, and must say that it was good. Even the cover was better, though it still had that same dull monotony of colors you've been using the last few issues.

Your lead novel, "The Sout Snatchers", was a refreshing, if rather horrifying, diversion from most of your feature stories the last year, with the possible exception of Ivar Jorgensen's thriller, "Rest in Agony". This was deep psychological fantasy, and really gripped you to its startling climax. Lee Francis can certainly turn out a good yarn when he sets his mind to it.

"Strictly Formal", by Gerald Vance, came in a very close second, and probably would have snagged first if it weren't for its length and too-easy-to-foresee-type ending. Don't get me wrong, LES; the ending didn't follow any well-used path—certainly not—but should not have been even hinted at until the very last paragraph, making it more of a surprise.

"Who Pleo Their Chains" and "A Star Has Fallen" came next, both being good, but just a little too obvious; just a little too stereotyped. But what is merely good for FA is generally excellent for any other magazine, so do not despair.

Coming in a dismal last was Paul Fairman's "Let's Have A Little Reverence". It should by now be evident that the Hannibal Coen type story will just not work in science fiction, and I am surprised that such an able writer as Mr. Fairman did not realize this. Perhaps the strain of editing his wonderful new magazine IF has interfered with his free-lance writing. At any rate, I expect more and better tales from him in the future.

Now for the departments:

I see in your editorial that your views on true SCIENCE fiction clash with those of Mr. Browne. Perhaps we shall have a

In the Reader's Page, Jim Harmon's letter is definitely the best, along with that of Henry Moskowitz. Hmmm. See that my missive was honored by the title "Letter of the Month". Gadsooks! McNamara has done it again. I sympathize with the plight of Betty Faulkner, having her same trouble. Oh, well. You have to take the good along with the bad, I guess. If you're going to read science fiction seriously, a place must be had for storing your books and magazines, no matter how difficult it is to find said place.

Well, that's about all for this issue, Les. Keep up the good work.

Robert D. McNamara
60 Plaza Street
Brooklyn, New York

We thought "Let's Have A Little Reverence" was a most humorous story, a really delightful satire.

No—Howard Browne and I have the very same views on science fiction. Sorry, but there'll be no clash along these lines. We both consider science-fiction a highly entertaining form of fiction for people who want more than madame adventures. Ed.

HOW LONG IS LONG?

Dear Ed:

Just a few lines to put in my request for longer novels, book-length novels. I notice several months ago, according to a poll in AMAZING STORIES, three-fourths were in favor of longer novels.

May I ask where are those long novels you promised?

By the way, I need one issue of FA to complete my collection—Volume 3, No. 5. Also, first eight issues of AMAZING STORIES. Also February through July 1957. Anyone having these issues, please let me know.

Now, back to my request for longer novels. Please give us at least one long novel every other month. Say, I am in favor of continued stories. Some of the other sf mags are doing quite well with continued stories.

Allen Maddox
Garner, Texas

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LANGUAGE records intended to teach the student while he sleeps are nothing new, but there have been conflicting reports of the value of such records.

Recently, at the George Washington University, three groups of ten students each were tested to see if sleep-learning had any real value. All of the students were equal in their ability to learn Chinese. One group heard the Chinese words and the English equivalents while asleep. The second group heard the listing of Chinese words, paired off with English words of another meaning. Music was given the third group.

In the morning, the first group learned in its entirety the meanings of the Chinese words, after having had to repeat them an average of only 5.6 times. The group that listened to waltz music didn't fully learn the list until they'd repeated it an average of 7.7 times, while over 11 repetitions were necessary before the group that was deliberately taught the inaccurate definitions fully mastered the accurate meanings.

It is possible that 50 years from now our whole concept of teaching will be entirely different. Maybe childhood will be unmarred by the trials of learning the three R's. These can be drummed into our heads while we sleep—and the days spent then in a paradise of play. —*June Lurie*

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MURDER BY MAGNETOSTRICTION

By Faye Beslow

MMAGNETOSTRICTION is a peculiar phenomenon which was, like so many things, just a plaything to a physicist. Today it has become a useful tool in a number of fields. Magnetostriction refers to the ability of certain magnetic materials, particularly nickel, to change their dimensions when placed in a magnetic field. The change is small but appreciable. Without the phenomenon of magnetostriction, experiments in super-sonics would have many more difficulties because metal is in many respects superior to crystalline materials like quartz, which have been used previously in super-sonics.

The latest application of magnetostriction on an industrial basis is in sterilization of liquids! Previously, sound detection equipment for submarines was its main

use. In the present application the liquid to be sterilized is passed through a nickel cylinder forming part of a magnetostriction oscillator. The nickel tube vibrating at tens of thousands of cycles per second generates super-sonic frequencies. Bacteria can't take this and are literally shattered to pieces by the stresses set up within them. The fluid coming through, be it milk or alcohol, emerges antiseptically clean.

Super-sonics, sometimes generated by magnetostriction oscillators, is used in cleaning clothes. The vibration actually shakes the dirt free without the use of liquids at all. A more familiar application is in phonograph pick-up heads. Here the reverse effect of magnetostriction delivers the goods. A nickel wire twisted in accordance with the grooves on the records creates a changing magnetic field which cuts through a coil and produces a suitable voltage for the amplifiers.

What is remarkable about magnetostriction is that, like a fair number of other obscure phenomena, it was dragged from the research man's laboratory and put into business and industry. There are probably any number of other unusual physical apparatuses which still remain hidden in the labs. The problem of the future will be to drag them out and put them to work!

AFTER ATOMIC POWER — THEN WHAT?

By Walt Crain

THE OMINOUS threat of war has launched the Atomic Energy Commission into a large-scale program of developing atomic engines for submarines and ships. At present we have a couple of each nearing completion. Had it not been for the definite war-threat the chances are this would have taken much longer.

Very often the threat of war forces activity in a field which economically is not yet quite sound and the result is that the final development, though more costly, is achieved much sooner than expected. It looks as if atomic power might receive a similar kick in the pants.

Atomic power at present is not quite economically feasible. It cannot compete with coal or water power. It's close but not close enough. As a consequence of these facts, it has appeared that we would not have atomic energy for a long time to come. But war's threat has changed that idea considerably. War is an insatiable consumer of electrical energy, not only for running factories and plants, but to produce the metals for war. Aluminum is a very important war metal as we are

too well aware. Its use in aircraft is imperative—so is magnesium. Both of these metals require enormous amounts of electricity for their production. Building ordinary power plants is a long-time, large-scale project. Atomic power authorities are thinking that they might kill two birds with one stone—supply the electrical power for aluminum production and at the same time develop atomic power plants. With these views in mind, every effort is being made to devise practical atomic energy plants. This is doubly important since it is known that the Soviets under the pressure of their own war efforts are working along similar lines. And since their electric power supply is much inferior to our own, atomic energy is a terrific incentive to them. But we're not sleeping and it looks like we'll have the thing before too long. It may cost us a few tenths of a cent more per kilowatt-hour to produce juice with atoms than with coal or water—but it may be a lot faster than building a ten-year dam or constructing a five-year coal-powered plant. Atomic energy is definitely on its way!



THE RECENT publicity given in a popular magazine to Dr. Claude Shannon's miraculous mechanical mouse: an electromagnetic genius capable of learning to solve the intricacies of the maze, brings up once more the astonishing results being achieved in cybernetics and with computing mechanisms. Shannon's electromagnetic "mouse", a chunk of metal manipulated by magnets and relays, literally "learns" to thread its way through a complex maze by a series of trials and errors, the "intelligence" of the mechanical animal manifesting itself by the use of a "memory" system wherein it stores the data achieved by try and try again.

Like the famed electromechanical animals of the British neurologist, Shannon's work is primarily designed to disclose, at once, the facets of the thinking process and of the means of robot-design. Shannon, like many another physicist and mathematician, is aware of the fact that the key to future developments in science and technology is the study of communications, the term "communications" being used here in its broadest sense.

On every hand, you can see a tremendous build-up of isolated ideas, particularly in the field of communications and cybernetics. It won't be long before some genius with an astonishing synthetic and analytic ability will combine these diverse data into one all-embracing theory which will virtually create a new branch—or art—of technology. We are on the verge of an enormous surge forward in applied science. Much of its energy will result from the efforts of men toying with robotic mechanisms and playing with abstract symbology. Out of nothing comes a world.... Men may not duplicate the human brain for eons to come, perhaps never, but surely they will fashion reasonable facsimiles thereof!

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MAKE-BELIEVE LIFE

By Merritt Linn

FOR THE most part the industries of the world are dependent upon sources of raw material which are nonrenewable. Oil, coal, metal ores and similar substances, once torn from the ground, do not renew themselves in anything less than geological time. For centuries this fact has bothered no one, but industry has become so gigantic that the future looks worrisome. Such huge amounts of materials are taken from the Earth that we can clearly visualize a time when there won't be any more.

To combat this, research is stressing a program, through scientific farming and forestry, of developing plant life more highly, regarding it as a renewable source of materials. A huge project is afoot to grow algae artificially, specifically Chlorella Algae, miniature water-borne plants which are immensely rich in nitrogen (in the form of fifty percent protein), and also rich in fats.

The plants, simple one-celled things, are held in plastic tubes through which nutrient solutions containing carbon dioxide and other materials are pumped. They are exposed continually to sunlight and grow continually. The process smacks of the assembly line. With a forced-feeding system like this, as much as a half pound of algae per gallon of water can be grown. The fatty material which can be obtained or refined from these one-celled plants is as good as anything for industrial fats and greases. Eventually such fats might be made diet-satisfactory.

While algae seem to show the greatest promise, biologists are confident that scientific synthetics farming of this type—including the much-maligned hydroponics—is really the cultivation of the future. Control can be so precise and the yield so great that wonders can be accomplished.

As for renewing metals, some strange discoveries have been made recently. In particular, a connection has been noted between certain types of metallic corrosion and bacterial iron pipes, for example, have been found underground, their surfaces corroded, not by chemical action, but by bactericidal attack. Furthermore, several bacterial reactions have been discovered with ordinary inorganic chemicals, notably the sulfur-feeding bacteria of an African swamp. While it may be premature to suggest that bacteria may conceivably be used in metallic mining, there is some hope that Nature may assist Man with some natural methods, not involving huge chemical plants, but instead using the simplest—and yet most complex—natural chemical plants of all—bacteria and living things!

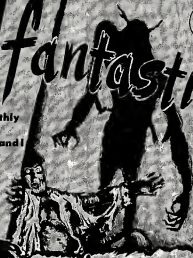
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All things begin with thought—it is what follows that may take your life out of the class of those who hope and dream. Thought energy, like anything else, can be dissipated—or it can be made to produce actual effects. If you know *how* to place your thoughts you can stimulate the creative processes within your mind—through them you can assemble things and conditions of your world into a happy life of accomplishment. Mental creating does not depend upon a magical process. It consists of knowing how to marshal your thoughts into a power that draws, compels and organizes your experiences into a worth-while design of living.

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